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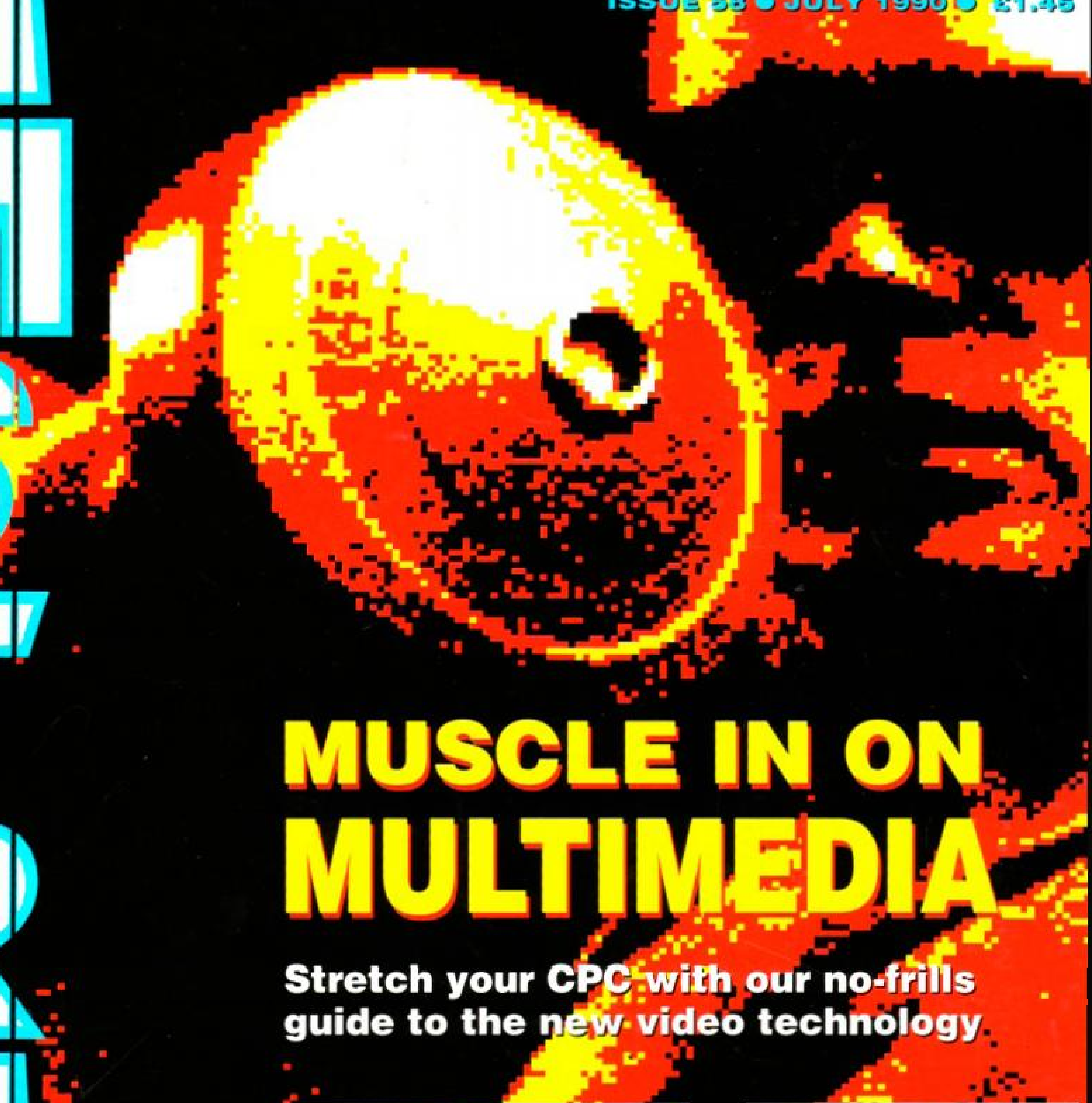
CPC

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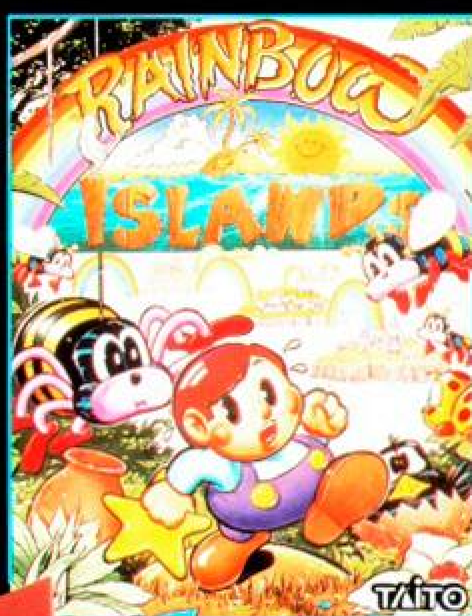


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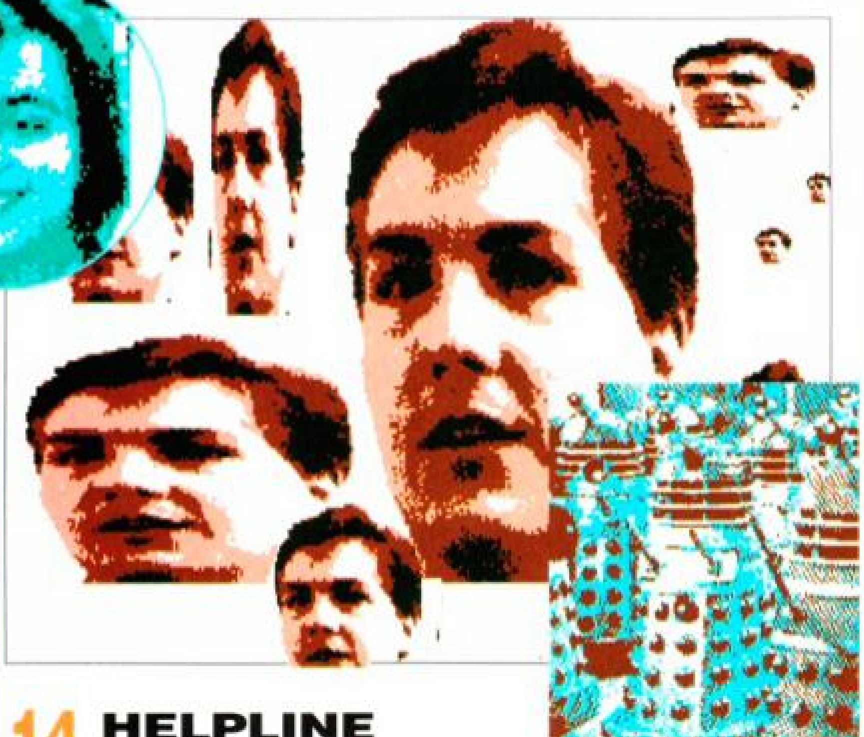
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MASTER GAME









CPC means business

Remember when the CPC was first launched? How Amstrad pushed it not just as a games machine but as a serious business tool as well? Things have changed a bit since then, of course. Amstrad has moved heavily into the corporate PC market and invested all its energy (and money!) into pushing its MS-DOS machines onto a sceptical business world. Which is a shame, because the CPC has been pushed to the background in the business stakes.



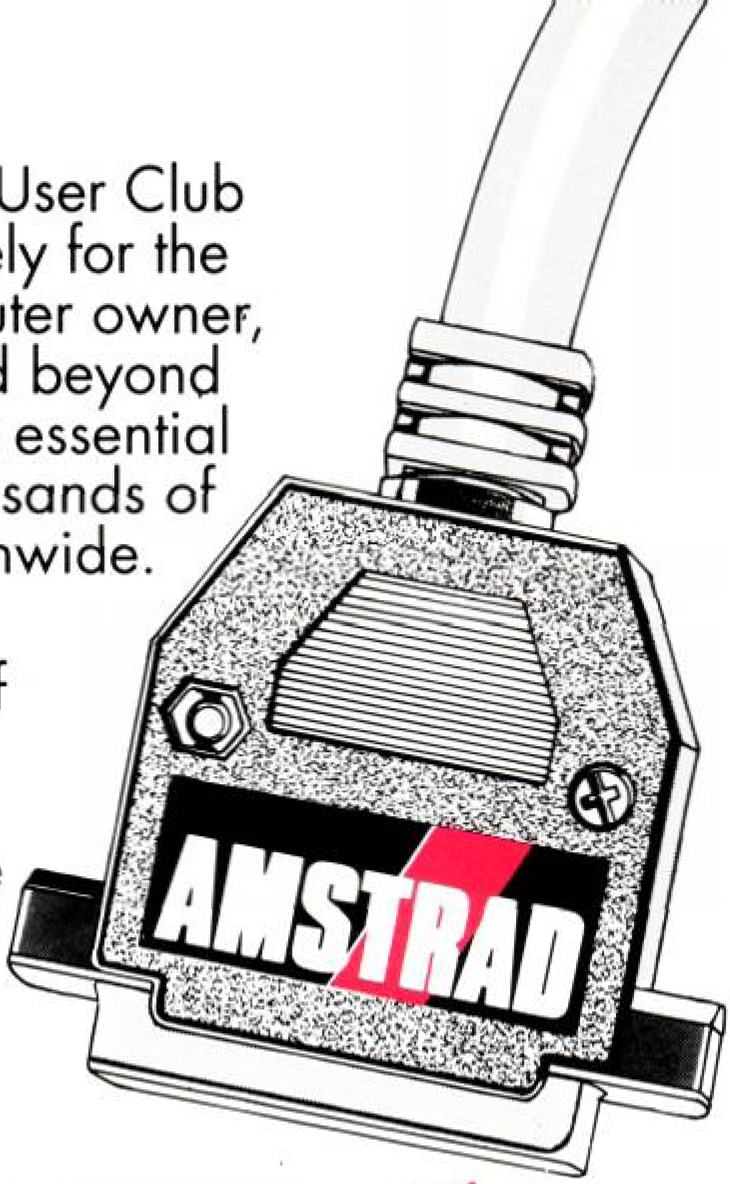
Or has it? This issue we compare three CPC-PC file transfer utilities, including the new Siren system previewed in *AA54*. We also compare the latest version of SD Microsystem's *General Ledger 6128* with a competitor written entirely in the much-underrated CPC BASIC! Finally, there's even the prospect of a hard disk drive for the CPC. You'll have to turn to *Amscene* for the full story on that one...





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CPC 'PLUS' SPEC REVEALED

Technical details of CPC 'Plus' and CPC Console leaked months before official launch

ore news has broken concerning the specification of Amstrad's top-secret CPC 'plus' and console, two months before the official launch this Autumn.

We first reported on the new machines back in *AA55*. It had been known for months that Amstrad was planning a console addition to the CPC range, but until then the Brentwood company had managed to keep all other details hush-hush. However, *Amstrad Action* learned in March that not only was the console to get upgraded sound and graphics hardware and a cartridge port, the existing machines would get the same enhancements too and be relaunched, possibly as the CPC 'Plus' range.

Latest developments

AA has uncovered some of the secret technical specifications of the new computers and console, a series of enhancements that look set to turbo-charge the CPC. They include:

- **64 hardware sprites, each with 32 colours**
- **Built-in hardware scrolling**
- **An increased colour palette and 32 on-screen background colours**
- **An improved sound chip**
- **A powerful custom chip to handle all the new features**

Current CPC owners have nothing to fear from the hardware enhancements of the new machines. The CPC Plus models will run all



● What's the official word on the latest CPC console rumours? Amstrad, as ever, is saying absolutely nothing.

existing CPC software, and retain the standard CPC 3-inch disk format. This quashes rumours that the company was to abandon this size in favour of the more popular 3.5-inch format.

It seems that under normal operation the new CPC computers (as opposed to the console) will behave exactly like the standard machine. Inserting a cartridge, however, will execute a special control sequence which switches in the new hardware, effectively flipping from computer to console mode.

It is unlikely that the cartridge-only console will be able to run any existing CPC specific software, though. Apart from the cartridge slot and joystick ports, the only other external feature to be seen is a Pause button. There is thought to be no provision to add a disk drive or tape interface.

A hard line on software?

Reports suggest that that the Amstrad intends to keep tight control over the production of cartridges designed for the console. The company is to introduce strict Nintendo-style licencing agreements whereby third-party producers would have to be appointed an official developer before they could write software. So, any cartridge games written for the new machines could be produced only with Amstrad's say so. Presumably, with the company would then benefit from a share of the profits from any software marketed.

As usual, Amstrad declined to comment on any of these reports. Even the launch itself in the Autumn has been neither confirmed nor denied. In the end, it will still be a couple of months before the general public – even the press – will know the facts for sure.

The last 6128 ROMs?

Even though Amstrad CPC 6128 ROMs are technically no longer available (see *AA54*), mail order company WAVE has managed to secure another 100 of the little beasties. Its last batch of 1,000 (see *AA55*) sold out in weeks, so any eager purchasers should phone now for a price – if there are any left. The number is 0229 870000.

COMPUTE FOR CHARITY

A brand new computer show in the north of England will be opening its doors at the end of this month. Called 'Compute for Charity', the show is a fun event that aims to raise as much money for charities as possible.

The charities include the nationwide BBC *Children in Need* appeal, as well as local 'special needs' groups. The event has received so much support from the software industry that the show has had to move to a larger site to accomodate all the exhibitors. At the last count there were over 50 big names attending, including Ocean, Codemasters, Virgin, Gremlin, Domark, Psygnosis and Electronic Arts amongst many more.

It's not all games, though. The show, which has been described as "A PC show for Charity", aims to cater for everybody with an interest in computing, and should have plenty to offer CPC owners.

Organiser of the show is programmer Andrew Whittaker – responsible for the CPC version of *Flying Shark*. When asked how much he hoped the show would raise, he refused to make any predictions: "We'll have to see what comes up on the day. I haven't set a target, it'll just be nice to see what arrives."

Instead of charging a set amount to the exhibitors, they have been asked to make a donation. Andrew explained that they were making more that way: "They seem to be in competition with each other over how much they should donate."

There will be plenty of other events at the show too. Andrew has (rather foolishly) agreed to appear in a bath of custard – sponsored, of course, by various software publishers. There will be clowns and jugglers, as well as people in fancy dress. Top science fiction writers Douglas Adams and Terry Pratchett will be making personal appearances at the show.

Naturally, we at *AA* will have our roving reporters at the show. It is being held at Humberside College of Higher Education, Cottingham Road, Hull. Admission is just £1 for adults, and 50p for children (though extra donations are welcomed). The dates are Saturday 30th June (Ten O'clock AM - 7 O'clock PM) and Sunday 1st July (Ten till Four).

Details can be obtained from Andrew Whittaker on 0482 564431.

Hard Drivin'?



● Would you rather have this pile of disks or a single hard drive?

You could soon be running a hard disk from your CPC, if Siren software has its way. The firm, famous for its CPC second drives, is currently developing the device.

The unit will plug into the expansion port on the back of the machine, rather than the disk drive slot used by second drives. The existing operating system in the machine will be scrapped as it imposes too many limitations, such as maximum disk size of 178K and 64 files per disk limit. Clearly not enough for a large-capacity hard disk! The operating system will come on ROM, and will be built into the interface. The new firmware will clearly have to be compatible with CP/M and serious software, the environment in which it's likely to be used. It is hoped that the operating system will be totally transparent to the user, and run any files that can be loaded from a normal disk. The hard disk should be just as fast as those in PCs.

Initially, the the interface will be configured to work with a 20 megabyte disk, but Siren say that other sizes, such as 40 and 60Mb could be supplied on request. Currently the device is in the early prototype stage. Although Siren have used the device to transfer data to and from the hard disk, a lot of development is needed before it's commercially available. Siren anticipates that a finished product is at least three months away.

There is one stumbling block, however. The disk drive is not going to cheap. Due to the high production and development costs the price will unavoidably be high. Siren estimates at least £400. This factor that could sound the death-knell of the project. Simon Cobb, boss of Siren explains: "Now the production costs alone are going to be around £350. To make the development of it worthwhile we'd looking to make about £50 with each one. We're talking £400+VAT, that takes it up to £460. It may not be economical.

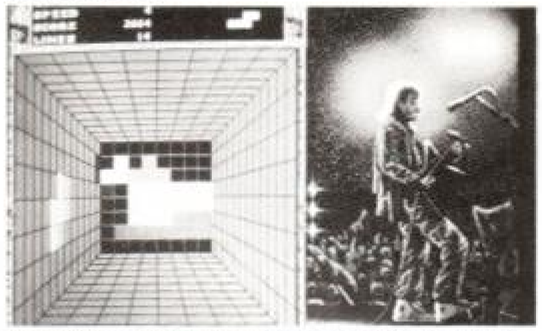
"I don't see that many people being able to justify the expense. You can go out and buy a cheap PC with a 20Mb hard disk for about £600. At that price we might only sell one or two!"

Nevertheless, if you're interested in the prospect of a hard drive for the CPC, why not tell Siren? You'll find the company at 84-86 Princes Street, Manchester M1 6NG, tel: 061 228 1831. Who knows, you may influence the course of history...

Klax Attack!

Alexey Pajitnov – the man who brought us *Tetris* – is near to finishing his next mind-bending game, *Welltris*. Another shape manipulation challenge, *Welltris* could give even the mighty *Klax* a run for its money.

Once again, the game involves manipulating falling pieces, this time so that they form lines at the bottom of a well. With three levels and five speeds, it relies on the player's ability to anticipate what the next piece will be and how it will fall. Infogrames is in charge of the conversion this time, so there's hope for a better CPC version than was the case with *Tetris*. The CPC incarnation of that Russian epic was decidedly grim.



● *Tetris* times four! Can *Welltris* steal *Klax*'s crown?

Barnes'tormer



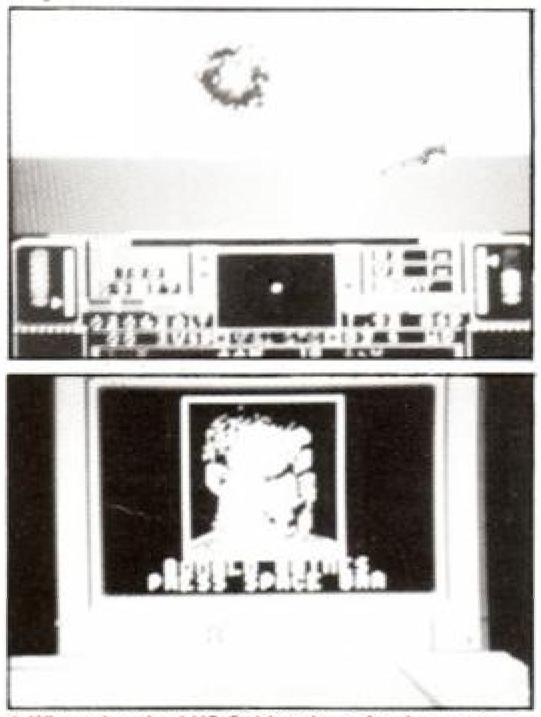
England's current footballing superstar, John Barnes, has signed up with Krisalis. The 1990 footballer of the Year is currently very hot property, singing on England's World Cup record alongside New Order and has replaced old timer Daley Thompson in the Lucozade adverts on TV.

The game will be structured along the same lines as *Manchester United* (reviewed this issue), another Krisalis product. It will feature an arcade section which focuses on Mr Barnes' skills and a management sim which is centred on the training and marketing of the player. The game is due out in 1991, and JB will even be signing copies on the day of its release.

Say Snow to drugs

Operation *Snow Strike* is in the final stages of planning at US Gold's Birmingham bunker. An aircraft sim with a purpose, *Snow Strike* fictionalises a US Government attempt to quash the South American drug lords.

It gives you the chance to fly F-14s into the heart of the jungle on 10 different missions. You will have the chance to prepare a plane before take off, train and eventually try to stomp on the powder keg that is South America. Politically (and constitutionally) dodgy, *Snow Strike* sounds a real rip snorter. And if US Gold can continue its current good run, the Medallin Cartel could be in for a big surprise.



● What a bomber! US Gold tools up for the war on drugs in *Snow Strike*.

Satanic Verses...

Dinamic has previewed its visually stunning new action arcade game *Satan*. Pairing a mighty wizard and warrior, the game tells the tale of good battling evil in a bid to overthrow the power of the eponymous demon. *Satan* will be launched on all formats at the end of June.

The features listed include four-directional scrolling, a scanner that searches for satanic forms separate from the main scroll, transforming enemies and huge sprites. With its two-load format, *Satan* may sound like just another beat-em-up from Dinamic. Bearing in mind its track record, that's very good news indeed.



● Dinamics gets evil in its latest arcade adventure *Satan*.

Predator Vs Alien.

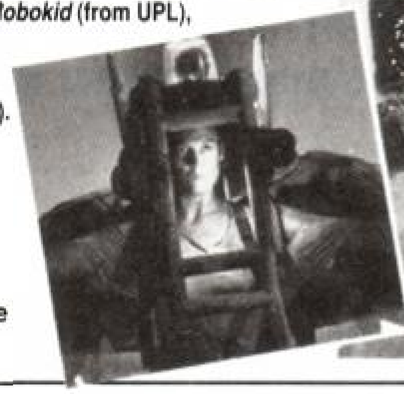


Activision has scooped the biggest film licence of 1991, *Alien Vs Predator.* "This is going to be a real biggie. When it arrives it is going to be so *hot*!" exclaimed Larry Sparkes, Activision's UK marketing manager.



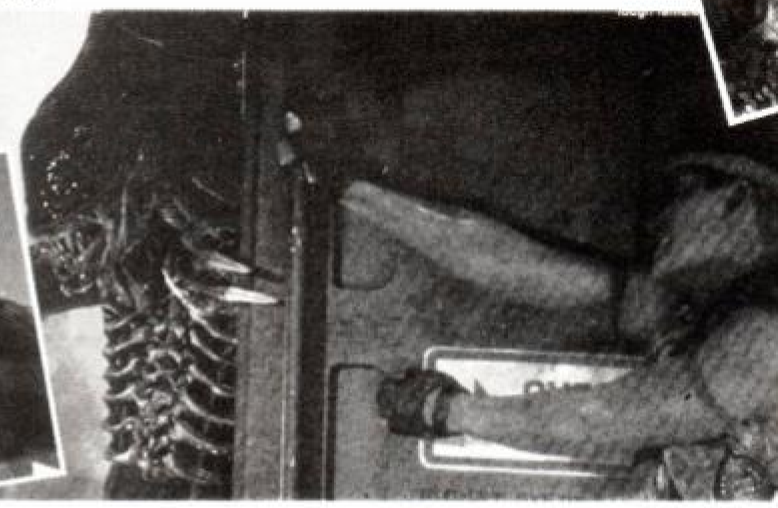
The film's a combination of Schwarzenegger's and Sigourney Weaver's recent box office hits, so looks set to be a surefire box office winner. Both the game and the film will appear sometime in 1991, although release dates have yet to be finalised.

More licences captured by Activision recently include *Atomic Robokid* (from UPL), *Dragon's Breed* (Irem) and *Beastbusters* (SNK).



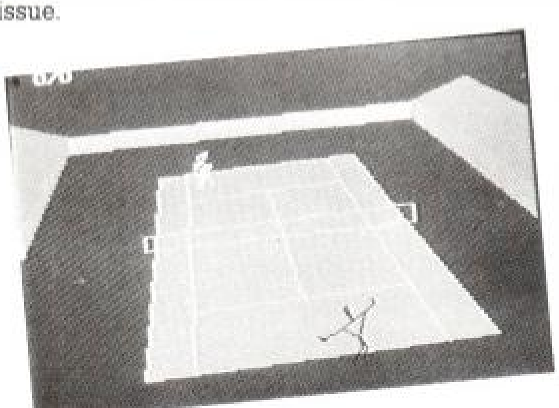
The company has also wooed World Snooker Champion Stephen Hendry to their software stable, for a game which will be released in September.

It's not been slacking on the original game front either, and has rushed to announce details of its forthcoming project *Time Machine.* A 4D fantasy role playing game arcade adventure. It concerns the adventures of Professor Potts, a tall awkward, gangly chap who looks exactly how mad scientists always should! He finds himself lost in time and to get back to the present he must warp evolution!



Knock up

Palace is about to storm the CPC scene once again with the imminent launch of *International 3D Tennis.* It won't look like any tennis game you've ever seen, with stick men for players. A necessary evil to achieve true 3D and a perfect tennis feel, we presume. Shots and volleys will be made all the more accurate, as the game doesn't simply mimic shots but, using a system never before applied to sports sims, actually works out how each shot would behave in real life. The Palace programmers are also hoping to include a feature that allows the player to view the match from ten different positions! *AA* will be on the centre court next issue.





● It may not be the best-looking tennis sim of all time, but is the most realistic?

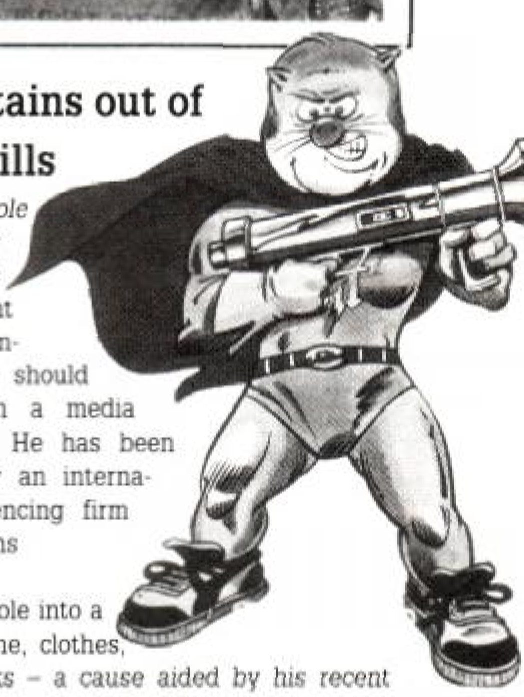
STORM FRONT

The Sales Curve used the European Computer Trade Show as to launch its own software label Storm. First title under the new lable is *St Dragon, a* classic shoot-em-up where a knight actually goes to the aid of an imprisoned Dragon.



● *St Dragon*, first game from the Sales Curve's new Storm label.

Mountains out of Molehills

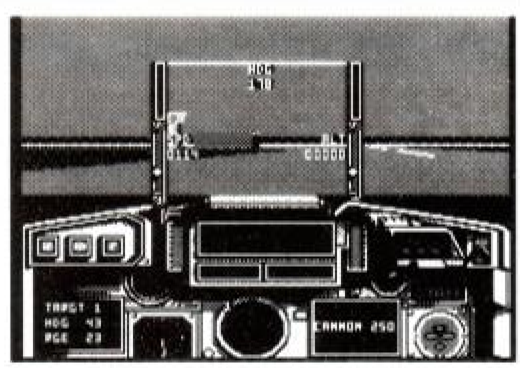


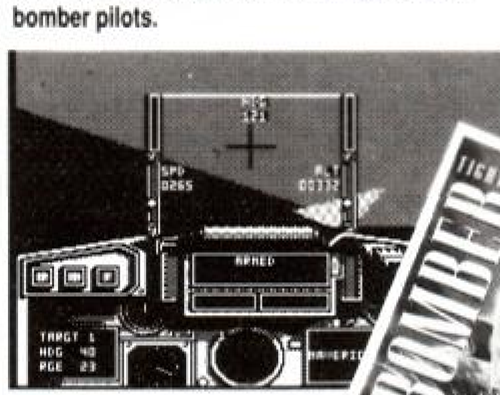
Monty Mole has finally put his claw print on a contract that should make him a media superstar. He has been signed by an international licencing firm which plans to make Impossamole into a board game, clothes, even books – a cause aided by his recent appearance in the *Daily Mirror*!

BOMBS AWAY!

Activision's long awaited flight sim is almost ready for take off.

Fighter Bomber is a game which allows desk top pilots (DTPs) to fly four state of the art aircraft on six varied missions. The F4, Tornado, MiG 27 and Saab Viggen have are in competition for the Curtis Le May Trophy, an annual competition held in the states to find the world's best bomber pilots.



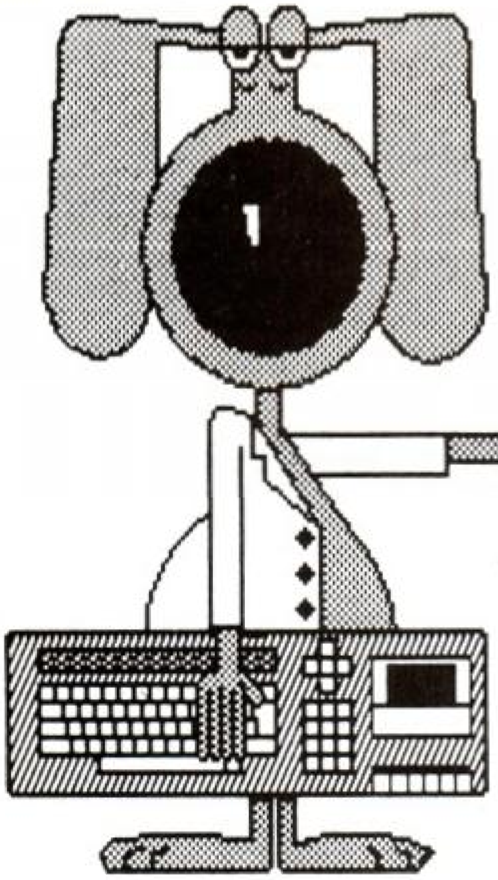


A copy landed at the *AA* airfield literally minutes ago. The crew will be giving each plane a test flight and will have the definitive report on your desk in time for the next issue, SIR!. There are bandits at four O'clock...(*which gives us half an hour to spare then – ed!*).



● *Fighter Bomber* has landed at last!

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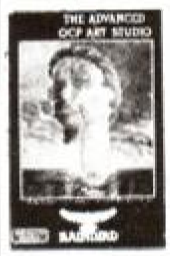
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Reaction

Want to get something off your chest? Here's the place...

● Mail order mutterings



Can you please tell me if you have any control over companies who advertise with you? Twice I have ordered computer games through ads placed in *Amstrad Action*. The first time I waited ten weeks to receive a game supposedly in stock. This time I have waited twelve weeks for a game, from a company which cashed my cheque on February 2nd and has still not sent my game despite numerous letters and phone calls.

I think it very sad that a company such as yours, appealing to computer owners, especially young children, carries advertisements from companies who do not despatch games on time or even have the decency to write and tell people why there is such a delay. I hope you can do something about this problem.

T Busfield
Blackpool

AA: Only two months ago we refused to take any more ads from one major mail order supplier because of reader complaints. And our advertising manager, Elaine Brooks, makes strenuous efforts to chase up any complaints we do get – with a very high success rate, I might add. Having said that, these companies are just advertisers – they are not directly under control.

And it's worth pointing out that the vast majority of the mail order purchases made through Amstrad Action's *advertisements end up with highly satisfied customers – we only ever hear the complaints, after all. Bear in mind that mail order companies can only keep their prices as competitive as they are through low overheads and high turnover, so don't expect the same level of attention and service you might get from a High Street shop. Finally, it's sadly the case that many companies advertise products they don't yet have in stock. This is usually because advertisements to go in the press must be put together perhaps months before the magazine is printed – in an effort to retain up to date, advertisers must assume products will be ready when the manufacturers say they will be. It's best to give mail order companies a call before you order whenever you haven't seen the game in the shops yet, or if you've any other reason to suspect availability.*

● Completely wrong!

Last issue (*AA57*) we printed a letter from Mrs P Russack which criticised Kosmos's *The French Mistress* for its grammar. "Francais au Anglais" was the offending phrase. Well, those were our words, and nothing to do with *The French Mistress*, in fact. Kosmos language tutors are above reproach, which is more than can be said for *AA*'s Franglais...

● What is public domain?

I am a beginner in the Amstrad world. I think your mag is brilliant. Only one thing. Recently you have been writing about public domain software. One question – what the hell is public domain? I tried looking it up and everything. Zilch. Please, please help me.

Jay Honosutomo
Hemel Hempstead

AA: Public domain software is simply software which is free to anyone who wants it. There is no copyright on it, and you are free to copy and distribute it at will. As a result of this, several public domain 'libraries' now exist, and you can order the software you want for nothing more than the price of a disk and a small copying charge. For a list of names and addresses of public domain libraries, check out the "Where to go" box in the public domain feature this issue.

● It's a hard life

I live way down here in Zimbabwe. I own an Amstrad 6128 and love it. I was reading Warren's letter in *AA*54 and he thinks he is hard off. Well he's wrong. Listen to this: My year's subscription cost £30 and I get the mag more than two months late (that's because it's surface mail). I have to go to England to get games. I live on playing *Type-Ins*. I can't enter any competitions because the mags are late. But enough of this. I wrote this letter mainly to congratulate the *AA* team. I love this magazine and I am not going to stop getting it. My favourite part of the mag is *Action Test*.

Derek Knaggs
Mutare
Zimbabwe

AA: That's nothing! I have to get up twelve hours before I go to bed and I live in a cardboard box on't motorway and I... I... oh, you've heard that one?



● Can't find the riddle in the Great Hall in *Castle Master*? Stick your head up the fireplace and check behind the mantlepiece!

● Don't forget the mantlepiece!

After seeing your review of *Castle Master*, I rushed out and bought one (as they say) and launched into my first *Freescape* adventure. So now I've got a couple of questions for you because some of what you say and show contradicts my experience of the game.

1. Page 47 shows a screen shot from the Great Hall, where a riddle is being depicted. But we've been there and can't find this riddle; we've 'actioned' absolutely everything and still cannot find this riddle. Please explain this anomaly. (*Explain it? – I can't even spell it – ed*)

2. Your reviewer talks about 'stone travel' options. This is actually 'rock travel', and it would have been nice to be told how to use this facility. Do you know how to tell the game to throw yourself and not just a rock?

From a general point of view, the games has ground to a half for us. We've 'actioned' everything, and still cannot find keys to some rooms. The large boulder around the back of the castle really does do nowt, 'cos we have done everything to is that we can possibly think of. And still we get nowhere. We've wandered around the catacombs and got nowhere. We've been in all the rooms we can get into without keys (or with the keys we can simply pick up), and again 'actioned' everything, and... we're stuck.

Can you sense the hysteria here!

Len Dean-King
Nottingham

P.S. I've got a CPC6128. And please nudge Mr Waring for info about level 13 in *Lost Caves*. I

AA: The place you've got to go to in the Great Hall for the riddle is the top right-hand corner of the fireplace. Crikey! – I mean, it's the first place I'd look, myself...

And to throw yourself around you need a special potion. I think that was in the review, actually, Len.

Oh, and Adam says he knows nothing about Lost Caves, and he doesn't remember any letters and anyway he'll probably be moving soon, and even emigrating maybe.

● EXUSER alteration

I have spotted an error in one of your *Type-Ins* from *AA*54. The program was EXUSER written by Adrian Pay. The error was that the program did not call up the routine and so typing in |USER (anything above 15) did not work. You might find that adding this might help:

```
75 CALL &9000
```

Well, it worked for me. Hope it works for you as well.

James Burr
Andover

● Half-price disks

I'm just writing to tell you and your readers about my discovery in Boots. I found out that they are selling Maxell 3-inch disks for £1.49, which is about half the retail price for such things.

I don't know if any other branches of Boots are selling them for this price, but the branch I'm referring to is in Slough High Street.

Matthew Marsden
Slough

AA: Remember when Dixons was selling off 6128 monitors cheap? I imagine this is another instance of the same thing – shop managers selling off stock at a reduced price. Anyone on the lookout for cheap disks could do worse than look into their local branch of Boots to find out if the manager's got the same deal on offer there.

● Poking query

I am writing to you on behalf of my school (Woodland High). We are holding a boat fair to raise some money for the school, and I wonder if it is possible to photocopy the pokes published in *AA*56?

Mr D J Wilmer-Brown
Chatham
Kent

AA: Sure, no problem – anything in a good cause. Mind you, for the information of anyone else out there reading this, AA's pages are copyright, so make sure you check with us first.

● Hot air

AA takes off! Why? Because of the Future Publishing hot air balloon!

As the balloon gently floated over from Bath towards the village of Camerton (a few miles south-west of Bath) it temporarily interrupted my baseball game, whilst I admired the extra-large envelope.

A fine balloon, if ever I saw one – congratulations to Future on a wise investment. You will be pleased to know that I went on to win the game 10-4.

Nick James
Camerton

AA: I couldn't care less who won yer game, I want to know who took the bloomin' Future balloon up without offering me a go!



● The Future Publishing balloon, seen here undergoing final testing in the pub car park.

● It's a fair cop, guv

My fourteen year old son sent to you a disk containing a number of pictures for consideration for *Gallery*. On 25th April he received a package from you containing his disk (thank you) and a letter. This informed him that, unfortunately, you were unable to use his work in this month's *AA*. Never mind, we said, try with renewed vigour, improve, and the glory – and maybe the money – will be yours.

To console himself he bought the May *Amstrad Action* the next day. But what is this on page 29? There is one of his pictures displayed four times, albeit in black and white, as part of an article on scrolling.

Fame and fortune at last? Not a bit of it. Not even the slightest hint of an acknowledgement.

Come on, *Amstrad Action*, this is no way to treat your young readers and contributors. The name is Neil Everill. He drew the American Football player and would love to see his name in print (especially on a cheque).

Mike Everill
Stoke-on-Trent.

AA: Ah. Yes. I can explain. It's like this... er... um... (A well-deserved cheque is in the post.)



● Credit where credit's due. Neil Everill's footballer pic didn't make the *Gallery* but turned up in *Naked Video...*

● Interface info

Help! I've just bought a second-hand Amstrad RS232C serial interface for my CPC6128 – the 'old' interface in the massive casing with its own power supply. It really looks useful when it's plugged in!

The problem is that's *all* it does. I didn't get a manual, so I don't know how to use it! If a kind-hearted soul has a manual that wants a good home, or could let me have a photocopy, I'll be eternally grateful, and I'll cover the photocopying and postage costs.

Lloyd Wood
Telford Hall
University of Technology
Loughborough LE11 3UA

P.S. If I told you it was important for my degree course and would prevent me from having to use a (spit!) PC instead, would it help me get hold of a copy?

● Helpliner warning

I am writing to you on behalf of a young friend

– Alastair Davis – who has lent games to one of your Helpliners in Liverpool. Now he has written repeatedly to this Helpliner and been told that the fellow has moved and left no forwarding address, so my young friend has now lost all his games. Perhaps this letter will prick the Helpliner's conscience and cause him to send the games back to Alastair.

Most Helpliners are genuine people, but when someone steals games from a youngster it's unfair and will only put readers off in future. I don't like this kind of thing happening, and I'm sure you don't.

Peter Hall
Basildon

AA: No, we don't. We haven't named the guilty party – yet. So come on chum, play fair and send Alastair Davis his games back. And from now on, anyone who does the dirty on a fellow Helpliner will be identified.

READERS IN DISTRESS

● *Armageddon Man* plea

I have been searching for a cassette game entitled *Armageddon Man*. I have seen this game on Commodore cassette but have failed to find it on Amstrad cassette.

I have tried numerous shops in my attempt – without success – and have just about given up hope.

Can you help me in any way?

Stan Wilson
4 Criddle Street
Salt Meadows
Gateshead NE8 3AS

AA: Armageddon Man was reviewed way back in AA26, Stan, which makes it about two and a half years old – no wonder you can't find it in the shops! The best we can do is throw your question out to the readers. Can anyone out there help?

● Missing manual

I have recently purchased a CPC 464 without a manual. I want to know if anyone has a spare or can tell me where to get one as I wish to use the *Type-Ins* section of your magazine.

Clifford Farr
74 Seymer Road
Romford
Essex RM1 4LA

AA: Right. You know the routine by now. Anyone able to help? Write to above address. Thank you.

● Wild about D W

As an *AA* reader for the past 3+ years, I have seen many bouquets and many bricks thrown. May I please throw my bouquet.

On reading your write-up for *Proscript* in issue 55 I sent off £15 for *Proscript* and PD Disk 1 (*Desk*). By what must have been return post I received PD Disk 1 plus £1 paid in excess, but no *Proscript*. After approximately ten days I wrote to enquire about *Proscript* and, yet again, by return post received *Proscript* with an apology. Also included was PD Disk 2 (free of charge) as compensation for the delay.

I send this in the hope that you will publish it to let readers see that the service given by DW Software is second to none and that DW (David Wild) deserves all the support that can be given.

T Pimlott
Morecambe

● Oh, and another thing...

What's this, another error? Yes, I'm referring to *Cheat Mode AA*55 and 56. The section titled THE MULTIFACE WAY. If I'm not mistaken, in both issues it is exactly the same, bar the colour of the text and the pictures around it. Ha – thought no-one would notice, eh? (*Cobblers! – ed*)

Now that's out of the way, I've been an avid follower and user of Arnold for near six years (yes, I have ye olde chunky keyboard), but it has served me well and I think that the new version CPCs will give a new lease of life to the machine, as it will prove who needs an ST or Amiga for fast graphics and inflated software prices. This is proved not only by Amstrad backing the machine further but also by the response that came from French users. The article that you did on the CPC in France was interesting and shows there's still life in the ole dog yet (pardon the pun).

My congratulations to Simon Lee (*Reaction AA*56). I agree with what he said about the argument that "My 6128 is better than your 464" being even worse than the "My Amiga's better than your ST" debate.

I would also like to thank G W Heslington (*Forum AA*49) for his help, but it was not needed as I got it to work two days after sending the letter off.

Also for Gareth Watts (*Forum AA*55) I can supply a lightpen and a reasonable pen database + required BASIC to use a lightpen in your own programs for £10 inc p&p. Please make cheques payable to Mr S D Green. There might be a slight delay in delivery as I am a busy person and all pens are made to order. One other thing. Can I... (*Time's up – ed*)

Mr S D Green
62 Nursery Road
Knaphill
Woking
Surrey GU21 2NW

AA: The answer to your last question is "Yes it is, but don't tell anyone we said so..." (There, that's got you all thinking, hasn't it?)

● Colourful correction

Your all-new *Buyers Guide* is out of touch. All the old CP/M warhorses – *Newword*, *dBase II* and *Supercalc 2* – can take advantage of the Star LC-10's colour capability.

In the case of *Newword* and *dBase II*, a simple colour definition file has to be included at the start of the document/program. *Supercalc 2* needs to have the control codes included in an eXecute (.XQT) file so colour could only be used easily with, say, an invoicing program run under *Supercalc 2*.

John R Hudson
Huddersfield

AA: Oh, sure, we knew that.. Ahem.

● *Matrix* on tape

Just to let you know that MATRIX is also available on tape (£29.95) as well as disk as shown in the *Buyers Guide*. And as from May 6th our phone number will be 081 861 1166 (even if we haven't corrected our notepaper!).

Peter Calver
Audiogenic Software Ltd

AA: Tell you what. You fix your notepaper and we'll fix the Buyers Guide. No? OK, I guess I'd better go fetch the Tippex...

● *Defender of the Crown* over here?



After reading your feature in *AA*56, *The French Revolution*, I would like to ask if there are any plans for *Defender of the Crown* to be sold over here in England, because my friend has got it for his Atari ST and it looks really good. I had been wondering whether it was available on the Amstrad until I saw it in the article. If there are no plans to sell it over here, can you please give me the address so that I can contact them to buy a copy straight from them in France.

Stuart Day
Bolton

AA: Even as we speak, the game is being translated by publishers Ubi Soft. You'll see the definitive review in AA as soon as we can beg, steal or borrow a copy ourselves.

Helpline is free!

Are you looking for a game that's no longer in the shops? Have you got a piece of hardware with no instructions or manual? If you're in a fix and don't know where to turn, send a note to Helpline, AA's free readers' page – after all, there are 35,000 readers out there who might be able to help...

HELPLINE

Feeling helpful? Just send your name, address, phone number (say if you don't want it printed) and subjects on which you're offering help to: *Helpline*, Amstrad Action, Beauford Court, 30 Monmouth Street, Bath, Avon BA1 2AP. Please write on a postcard or the back of a stuck down envelope and keep it short or you won't get in (or you'll get cut to 'loadsagames').

If you want help contact the appropriate Helpliner – not us. By post include a self-addressed, stamped envelope for the reply – or you won't get one. And phone only in decent hours!

Piracy is not welcome: don't try it, you'll get booted off. Keep it legal. And if you receive SAE's, for heaven's sake return them with some acknowledgement. Finally, if you want to come off *Helpline* just write in and

I am an 18 year old 6128 owner looking for a penpal, especially in NZ or Australia. I'm intersted in games, tape to disk transfers and programming in BASIC and simple machine code.
C Young, 66 Te Arhoa St, Hamilton, New Zealand.

Is there anyone willing to sell a Multiface II for half the price (or less)? I need one desperately and I can't afford the full price.
Kenneth Scicluna, 8 Bastion Str, Fgura, Malta.

6128 on disk, penpal wanted. Age 12. Willing to swap and lend games and cheats.
Casey Jonkmans, 11, de Beauvoir Terrace, Jerbourg Rd, St Martins, Guernsey, CI.

Hi – My name is Peter Moller Hansen. I would like to swap demos from other countries. I've got a lot myself, please write or call.
P M Hansen, Kirkevej 153 2791, Dragor, Denamrk. Tel: 31 53 06 92.

Desperately seeking (no, not Susan, I already have!) all information about selfmade hardware. Help given on mouse adaptors, printer digitizers ect. Also wanted: User demos and penpals. Everyone gets reply (or Emma B – RIP – will get me).
Peter Captijn, 't Biezenweite 90, 6932 HL Westvoort, The Netherlands.

I need Vortex F1X or new BASF 6139, Microgenic Eprom Programmer + expansion board. DR Graph, *Carrier Command*, *AA* 1, 2, 16, 43, 25-28. Will swap respectively with: Amstrad FD1 + Sony Datacorder and lead for 6128, KDS communicator, Amstrad CP/M + book, *AA* 4, 8, 9, 21. Penpals wanted from anywhere!
Maurice Homan, Eernewovdeweg 30, 6853 Y G Arnhem, Netherlands.

Does anybody know how to kill Hydra and the woman who turns into a Harpy in *Myth*, or has anybody got any cheats or pokes for the game (the tape version). Please write.
32 Tower Close, Bassingbown, Nr Royston, Herts, SG8 5JX.

Desperately seeking Rainbird's *Advanced Music System*. If you can help please contact me.
Adrian Hopkins, Ribydene, Hunts, Hibalstow, Brigg, South Humberside DN20 9EH. ☎ 0652 55068.

Penpals wanted, I own a 464 and have for over three years. Age 13-16, preferably female (but it doesn't matter!). Interested?
Karl Henderson (15), 45 Conyers Ave, South Pelaw, Chester-le-Street, Co Durham, DH2 2HH.

Posse de nombreux jeux et utilitaires pour Amstrad 6128? Cherche correspond anglais parlant Francais.
Roger Lorrain, 23 Route de Fretterans, 71270, Pierre de Brese.

*AA*22 and 46 for sale, penpal wanted 10-13 male or female. 464 + plus disk drive owner with loadsgames and pokes.
38 Crestwood Gardens, Northampton, NN3 4TZ.

Has anyone got *Rock and Wrestle* on tape to sell or swap. Got some cheats, pokes, codes ect.
Colin Mulholland, 40 Carrington St, Ravenhill Rd, Belfast, BT6 8GF, NI.

Wanted: *War in Middle Earth* for 6128 disk.
Andrew Lake, 4 Fairfew, Main Rd, Bamford, Sheffield, S30 2AY. Tel: 0433 516 43.

Cheats DESPERATELY needed for *Football Director*, also *Platoon* and *Combat School* on budget. Has anyone got a copy of *TT Racing Sim* by Power House? Good price paid. Unique cheat given for *Chase HQ*.
William Huddleston, 1 Millwell Park, Innerleithen, Borders, Scotland, EH44 6JF.

I need PD software for my PD library (CPD). I already have over 200 programs (SAE for details) but it isn't enough. I will return your cassette with PD on it if I use your programs.
Alan Scully, CPD, 119 Laurel Drive, Green Hills, East Kilbride, Glasgow G75 9TG. Tel: 03552 24795 – pm Monday to Thurs.

Has anyone got *Annals of Rome* on tape? Your reasonable price paid.
Bredan McGoldrick, 14 Curley Hill, Strabane, Co Tyrone, NI, BT82 8LP.

Wanted: plans for a robot arm. Also I have pokes, maps, hints for loadsagmes, send SAE + 20p. Money back if I can't help. Does anyone have any speech programs? Will pay.
Nicholas J Pye, Euroa Villa, Shore Rd, Tighnabruaich, Argyll, PA21 2BD.

Does anyone have a copy of *BASIC Programming for the Amstrad Computers 464, 664 and 6128* by Wynford James – published by Micropress 1985 – for sale?
C Russell, 57 Brookside, S Harrow, Middx, HA2 9AW.

AA's for sale: 19, 21, 38, 40, 42, 43, 44, 49, 50, 53. Also need help on *Tombstowne*.
Zac Taylor, 11 Tabernacle Rd, Hanham, Bristol, BS15 3DZ. Tel: 0272 611 966.

Is anyone willing to help me understand my CPC, who lives in or around Eltham? I play games but want understand my CPC better.
Sue (25), 12 Cedric Rd, New Eltham, London, SE9.

Help! Can anyone sell me a copy of *AA Cheat Mode Book One* for a reasonable price?
Bobby Ketters, 26 Heron Close, Ayton, Washington, Tyne and Wear, NE38 0EJ.

Please, please can you help. Has anyone got a copy of the CPC Promotional Pack, *Games Pack II*? I will pay a good price.
Carlton Young, 189 Westgate, Almondbury, Huddersfield, HD5 8XN.

Help wanted on: *Wizard Willy*, *Rampage*, *Side Arms* and *Airwolf II* for CPC 464.
Mark Roberts, 72 Vincent Gardens, Sheerness, Kent, ME12 1XX.

Penpals wanted from any country. 15 year old boy wants to exchange pokes and cheats. Must also like music, sport and have other interests. 464 only. No SAE required.
Jan-Fei Li, 26 Kirton Close, Tilehurst, Reading, Berkshire, RG3 2NS.

Who wants to sell me *GAC* then? Just give me a tinkle on the blower (the phone) and make me an offer, or slap a few words on a bit o' paper 'n send 'em down to –
Mark Berbezier, 47 Lakeen Rd, Intake, Doncaster, South Yorkshire, DN2 5HB. Tel: 0302 323266.

Can I please, please, please have a tape poke for *Gryzor* that I can type in myself?
Vikram Hirani, 11 Chippenham Ave, Wembley, London, HA9 6NH.

BASIC programs written or debugged or altered to your requirements – contact me for details. I would also like programs which can be used in a Mini PD.
Corran Musk, Sunbank House, Lossiemouth, Moray, IV31 6RZ.

Help wanted on *Ghosts 'n' Goblins*, *Ghouls 'n' Ghosts*, *Robocop*, *Renegade* and billions (?) of others. Also female penpal (11-13) wanted to lend and swap games etc. Must have a 464, like pop music, *Viz* and comedy. I am 12.
Ryan McGovern, 20 Chesterfield Ave, Great Western Rd, Kelvindale, Glasgow, G12 0BL. Tel: (041) 334 9940 6-10.30 pm any day.


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Multimedia



'Multimedia' is destined to become the new computing buzz-word of the '90s. *Amstrad Action* busts through all the jargon, and finds out exactly where your CPC fits in...

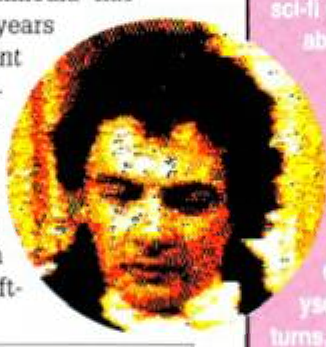
Multimedia is a very fancy word for something very simple. Video, sound and computerised graphics are all different 'media' which traditionally simply haven't mixed – until now. People are, however, cottoning on to the immense potential of computers as a 'clearing house' for information, with databases consisting not just of text records, but digitised pictures and even sampled sound. More than that, computers are now an integral part of movie and TV production. There can't be many TV logos *not* generated by computer first before being recorded onto video – one of the oldest 'multimedia' applications.



Multimedia on your CPC?

Flick through the pages of the computer weeklies, and chances are you'll find an in-depth article on the subject. The 16-bit magazines can barely contain their excitement about it. But has this 'new' technological breakthrough come about through the advance in power that only these powerful upmarket machines can offer?

No! The concept of multimedia has been around on the CPC for years – it just went under a different name. All the necessary components that multimedia consists of already exist. Video can be imported, pictures can be scanned, sound can be sampled and the CPC can even speak, with the right software. Everything you need is there – all you have to do is get them working together.



Posh computers like the Apple Macintosh have highly developed Multimedia systems. They use high density-storage media – such as compact discs – to store the photographic-quality images that their high resolution screens are capable of displaying. No amount of technical tinkering will get the CPC to display a picture of that quality. Nevertheless, the resolution's not that bad, and it's perfectly capable of showing recognisible objects on screen. However, 10 full-screen pictures will fill an ordinary Amstrad disk. For greater storage capacity, 3.5 inch disk drives – available from many CPC suppliers – may be a wise investment.



MULTIMEDIA IS TAKING OVER!

E-FIT

Remember the old Identikit pictures they used to use on *Police 5*? The ones where you wouldn't even recognise your own Mum? Well things are different now – *Crimewatch* has come to town. They take their pictures from the police E-FIT system, which is a computerised blend of the artist's pencil and Identikit's range of noses, ears etc.



● E-Fit in action. Do you recognise this man?

Using a database of 'donated' faces, the various features are split up to be used at will. The resulting picture is much more lifelike as it comes from real people, and unlike Identikit it doesn't suffer from the introduction of more features (which meant an even bigger collection of pieces to sort through). E-Fit can, on the other hand, flick through them in seconds and the more features in the system the more varied and more refined the system becomes.

Combined with an art package, E-Fit helps with the even finer tweaking of the picture, as scars, tattoos and the like can be added quickly and easily. The potential is obvious. Using the same techniques, even things like vehicles could be replicated, using the system to dent bumpers, add rust or just make the car look dirty, all in a bid to jog witnesses' memories.

Cyberspace

Cyberspace is an environment generated by computer which is perceived as real by the user – a Virtual Reality. Readers of William Gibson's cult sci-fi novel *Neuromancer* will already know all about Cyberspace.

That fiction is now become fact. Systems currently in development for architects are on the verge of breaking into an interactive cyberspace that allows you to move about this brave new world. Using special 'eyephones' instead of monitors, the direction and movement of the head is analysed and the display updated. As the head turns, so, apparently, does the room you're in. Further experiments are taking place with gloves and rolling walkways to further enhance the illusion of reality. The gloves monitor the movement of the arm and, with the help of pressure pads in the fingerstips, allow the user to actually touch objects in this model universe. Moving walkways, like the ones used in gyms for running exercises, are also to be employed so you can walk around.

Architects are hoping to use this ultra-tech kit to allow clients and designers alike to wander through the buildings they've knocked up in CAD.

Publishing

At the forefront of the multimedia revolution is the Apple Macintosh. At one recent expo', Apple was showing off a system that allowed a page of word-processed text to feature three different live video images running simultaneously within it.

This machine (which *AA* is finally typeset on) has excellent CD ROM capabilities, and as such is ideal for multimedia tasks. One such example is the *Guinness Disk of Records*. This little baby contains all your favourite triv about people eating aircraft and hopping up Everest blindfold, but also has some twenty minutes of of computer-generated animation and over three hundred still-frame photographs.

Dragon's Lair

The *Dragon's Lair* arcade, while being unplayable, was a breakthrough. It used laser disks to create an interactive cartoon. The gel's were originally hand painted, filmed and digitised to laser disk. This gave the player access to a level of cartoon realism previously unheard of.

Cartoons and special effects are ideal for the process of digitising. Frame by frame, the computer can help to generate a smoother, slicker picture than ever before. Films composed of single frames, though, take time and even the supercomputers of today aren't much help. *Snow White* took two years to create way back in 1937 and was *made up of 477,000 frames. Industrial Light and* Magic – George Lucas's special effects studio – uses Cray X-MPs. These cost $10 million, but still can take up to an hour to generate a single frame. And each second of film requires 12 frames!



● *Dragon's Lair*, the first interactive cartoon.

– the future is here!

GRABBING THOSE IMAGES

The Vidi digitiser from Rombo is not new. It's been around for about four years now. This wonderful device accepts input from any video source. It could be a video camera, for example, allowing you to capture pictures of your friends and real objects. A Video Cassette Recorder, on the other hand, gives you the advantage of being able to grab stills from *Blade Runner* – just the thing for the hi-tech imagery that multimedia thrives on.

The black box of tricks plugs into the back of your CPC, and in turn a video lead plugs into the back of the box. The accompanying software comes in two forms. A bunch of RSXs allows you to custom-design your own programs, and a ready-to-run program lets you grab the stuff from the outset. Operating it really is a doddle. Just point the camera (or play your video) and you're off. The camera image is updated continiously on-screen, and the contrast and brightness of the image can be altered with the software in real time. When the image you want is on-screen you can simply select 'grab' and the captured image can be saved to disk or dumped to a printer.

Images can be grabbed in all three modes. Mode Two provides the better resolution, but the other modes allow colour grabs. Not true colour, mind, but it does allow you to shade the pictures in grey scales. Four-colour grabs arguably provide the best trade-off. Full colour is just a mess, while mono is a bit plain.

The RSXs supplied provide the greatest opportunity. Several demo programs that use the RSXs come on the disk, with examples on selecting frames and animating them, and bouncing a real time image around the screen.

Vidi comes from Rombo Productions, 6 Fairbairn Road, Kirkton North, Livingston, Scotland, EH54 6TS. Tel 0506 414631. Price is £69.95.

● Brian the snail grows a moustache, courtesy of *Dougal and the Blue Cat*, Channel 5 videos.

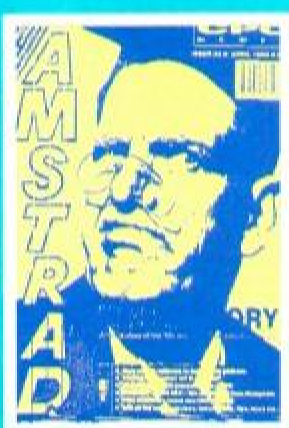


IMAGE SCANNING

Another way to get those pictures into the CPC is to use a scanner. Scanners can be said roughly to fit into two categories. Hand-held devices fit in the hand (corks!). They are dragged over the image and read the picture through a window on the underside. Flatbed scanners work rather like a photocopier. The item to be scanned sits on top of the unit and a scanning 'head' moves across it. Of the two, the flatbed is the best, having a higher resolution and wider scanning area, but the hand-held is much cheaper.

The Image Scanner from Dart Electronics (the only scanner you can get dedicated to the CPC) fits into neither of those roughly-defined categories! It forms a whole category all on its own, one which combines both flatbed and handheld technology. Dart's device makes clever use of existing computer equipment – namely the printer, and a plastic 'reader' which clips onto the print head. It works by shining a light onto the paper, and measuring the amount reflected back. The software utilises the printer to move the reader across the image and advance the paper at the end of each horizontal scan. This ingenious piece of engineering allows Dart to offer a piece of kit that would otherwise cost hundreds of pounds at a very reasonable price. The obvious disadvantage with the Dart scanner is that you need a printer for it to work. And not just any old printer will do. It has to be one of the Amstrad DMP range.

Although, maybe... a bit of experimentation and a lot of cleverley positioned blu-tac should allow you too adapt the device to fit onto other makes. The pictures here were obtained with a Citizen 120-D. The images were photocopied and then stuck down onto tractor-feed paper for scanning – with suprisingly good results.



● The *AA55* cover given the Dart Scanner treatment. Not bad, eh?

The Dart works in mono, and therefore scans in Mode Two. An A5 scan roughly equates to one screen, but the software allows you to grab two screens consecutively, so that you can reproduce an A4 page in memory. The software then allows you to zoom-in, mess around, add text etc.

The Image Scanner costs £79.95. Dart Electronics can be found at, Unit B5 Oulton Works, School Road, Lowestoft, Suffolk NR33 9NA. Telephone number is 0502 513707.



● Ilya Solo, Ollie Kuryakin and Napoleon Alderton in, er, that order...

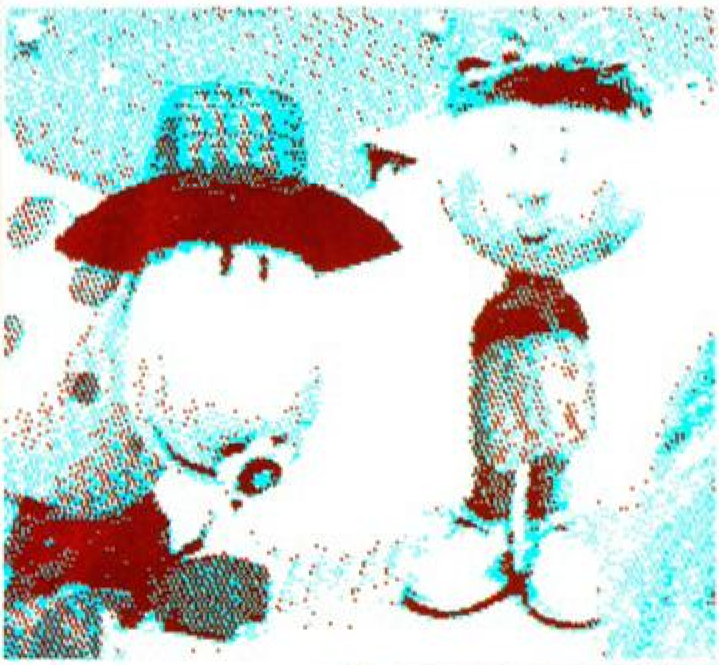
Graphics are the mainstay of any multimedia system. But before they can be displayed, you need some way of getting the pictures into the CPC. You could draw 'artist's impressions' with an art package, but multimedia is all about incorporating real images.

Methods for getting pictures from the Real World into computers are:

● **Digitising** involves taking a video image and converting it into pixels. Point a camera at your subject, and 'grab' it into memory.



● Exterminate! Exterminate! Digitised Daleks, from the WACCI demo disk.



● **Scanning** consists of 'reading' an image into the computer from a piece of paper (or similar). Photgraphs, drawings, in fact anything that's flat(ish) can be scanned.

The CPC can do both! From Rombo, up in Scotland, comes the Video Digitiser – Vidi, to its friends. This clever little unit can take a video signal from a camera or a VCR and grab those images straight into your CPC. Meanwhile, Dart Electronics offers the Image Scanner, a box which sits on your printer head as it scans a page, and which turns printed matter into pixels.

Art packages are great for manipulating images gained by either of these methods. It's all very well having your digitised/scanned picture on disk, but you may want to include text or just tidy up the rough edges. Adding extra limbs, removing unwanted hair and superimposing sheep becomes a doddle. (*Er, see me in my office later – ed.*)

Once you've got a nice clean image into your CPC, what do you actually do with it? There aren't actually any commercially-available multimedia packages on the CPC. About the closest thing to it are DTP packages like as *Stop Press*. Here you are able to load images into the computer, mix them up, paste them onto pages and surround them with text.



● "My right side's my best, really." Matt Blibey, front man on *Your Sinclair* and general good egg.

A practical project...

For true multimedia-style results on your CPC, a bit of programming is called for – for example, a program that allows you to explore topics rather like an encyclopaedia. The user must be able to wander through the information at ease, rather than plod through it in a set order. And for Heavens sake, make it interesting – lots of animated sequences and sampled squawks. Who knows, maybe in a future edition of *Type-Ins*...



● Receptionist Kate Tells people we're not here especially when we're not.



● Debbie and Melissa, hard-working Production Dept types: "Put this in the mag and we break your arms."

Title your ow

Steve Harris, of Carshalton, Surrey, has come up with this alarmingly simple yet astonishingly clever system. His rather spiffing project allows you to add titles to videos rather like the dialogue frames in those old silent movies. Instead of having to hold up a tatty bit of cardboard in front of the camera, you can use your CPC to port the text – even graphics – directly onto video tape.

The possibilites are endless. Family videos are probably the most likely candidate for titling. That boring video of your sister's wedding, for example, could be livened up no end with a liberal scattering of captions and a brief run-down on exactly what your sister did get up to during that funny weekend in Tunbridge Wells with the MD last August.

And the use of video techniques is increasing in many areas – sales presentations and training courses are using the new technology more and more. Professional effects like the fades should slicken up any production.

The home movie-maker will benefit, too. Imagine the extra veneer of professionalism that'll come from a whole list of credits at the start of each of your creative efforts! Imagine the thrill buzzing through your audience as a screen comes up listing all 137 interesting sights you recorded for posterity during your seven-day stay in Benidorm...

How does it work?

Well, for the complete technical run-down, who better to do the explaining than Steve himself...?

The CPC range of computers has a standard video output. Connection to the monitor is provided by way of a 6-pin DIN connector, which permits the following signals to travel from

The GEN on GENLOCK

Steve Harris's lead and software give a professional-looking finish to a video, but the mixing of media needn't stop there. Genlock is the next stage up, a system that allows you to mix a video signal and computer output and display them simultaneously. This would allow you to subtitle your videos, mix text and graphics, even display pictures of your friends in computer-generated landscapes!

It works by substituting one colour on your CPC with the video image. For instance, you could have the image 'showing through' the black parts on the computer's display. Special effects in television are often generated in a similar way.

Unfortunately, it is unlikely that Genlock will ever appear on the CPC. The price of such a system would put it out of reach of all but the most determined hobbyist.

videos!

HOW TO DO IT

To title your videos, first you need some screens to display. These must be in mode 2, and can be drawn with *Stop Press*, or any art package that allows the use of this mode. They must be named 001.SCN, 002.SCN etc. The higher the number, the further they'll be in the sequence.

The listing then does the business. Run it and the program will prompt you for the following:

Enter start delay in seconds: (This is the time delay before the sequence runs.)
Enter finish delay in seconds: (This is the time after the sequence runs.)
Enter number of display scrns: (This is the number of screens to display.)

The program will then ask you for the delay between each screen:

Delay (1): Delay (2) etc

You will then be asked what effects you would like to be used.

Fade-in Y/N: (Answer Y if you want to start the sequence by fading in.)
Fade-out Y/N: (Answer Y if you want to end the sequence by fading out.)
Clear screen fade out Y/N: (Answer Y if the screen is to be cleared before fading out.)

Finally, the computer will want to know what effects to use. There are three choices, but the fade swap is the most professional.

Effect:
(1) Venetian blind
(2) Fade swap
(3) Straight swap

The program will then launch into the sequence, subject to the delay selected. So you should start the video recording as soon as you select the effect. When the sequence is complete, the program will wait with a blank screen. You should now stop the video recording. Press the space bar and the message <TITLING FINISHED> will appear, and the program will return to BASIC input mode.



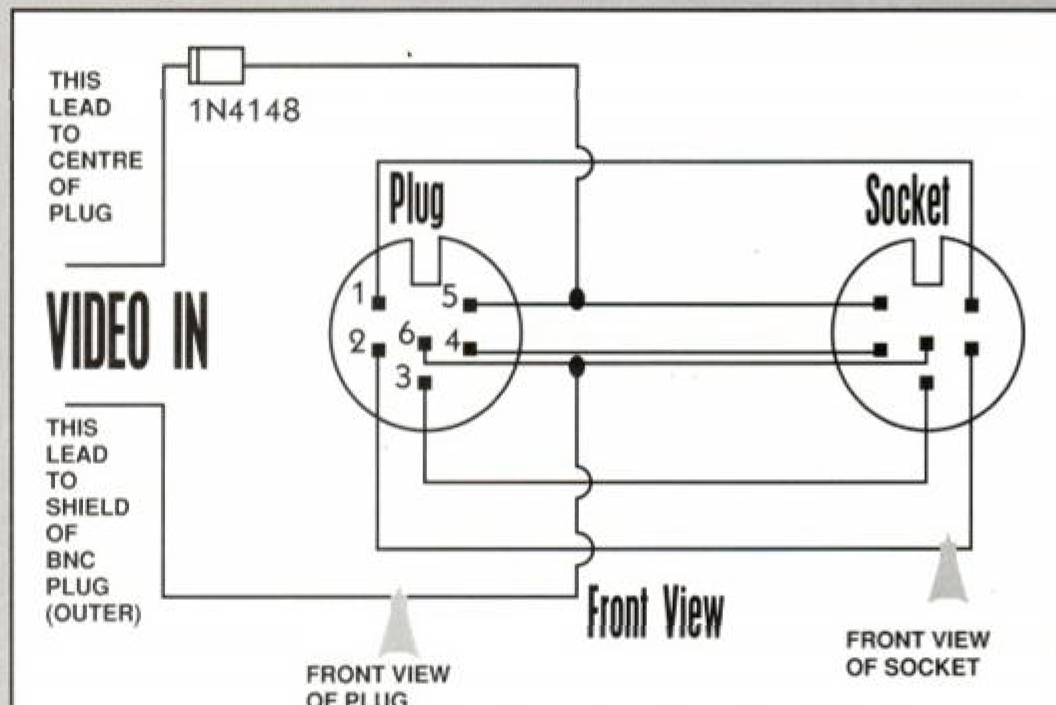
● Professional-looking captions can be yours!

THE LISTING

Just to make life easier we've inserted the checksum codes used in *Type-Ins*. The dots are there to indicated space – otherwise it can be difficult to tell where they are.

```
{DpAr} 1000·REM·Video·titling
{HnAs} 1010·REM·(C)·Steve·Harris
{KlAu} 1020·REM·written·28th·February·90
{BnAl} 1030·REM
{OqBn} 1040·REM·*·*·SCREEN·SEQUENCER·PROGRAM·*·*
{DpAk} 1050·REM
{MqAk} 1060·REM
{IkAk} 1070·:
{DqAo} 1080·REM·*·Setup
{DjAk} 1090·'
{KsAj} 1100·'
{IqBj} 1110·MEMORY·&3FFF:FOR·i=&100·TO·&117
{DrAx} 1120·READ·i$:POKE·i,VAL("&"+i$)
{BrAl} 1130·NEXT
{JpBm} 1140·DATA·21,00,C0,11,00,40,01,00,40,ED,
       B0,C9
{DsBm} 1150·DATA·21,00,40,11,00,C0,01,00,40,ED,
       B0,C9
{FlAm} 1160·MODE·2
{IsAp} 1170·CALL·&BC02
{JoAw} 1180·INK·0,26:BORDER·26:INK·1,0
{FqAk} 1190·:
{RwBo} 1200·REM·*·Get·details·of·pictures·and·
       delays·etc
{PjAj} 1210·'
{KoAj} 1220·'
{DwBx} 1230·LOCATE·1,1:PRINT"Okay.·
       hello·and·welcome·to·<<VIDEO·TITLING>>"
{PuCo} 1240·LOCATE·1,3:PRINT"Okay.·Enter·start·
       delay·in·seconds:";:INPUT·startdelay
{LsBi} 1250·startdelay=954*startdelay
{LoCp} 1260·LOCATE·1,3:PRINT"Okay.·Enter·finish·
       delay·in·seconds:";:INPUT·finishdelay
{IoBi} 1270·finishdelay=954*finishdelay
{GkCk} 1280·LOCATE·1,5:PRINT"Okay.·Enter·number·
       of·display·scns:";:INPUT·screens
{KsAu} 1290·DIM·delay(screens)
{LqAr} 1300·FOR·s=1·TO·screens
{PvBw} 1310·LOCATE·1,7:PRINT"Delay·
       ("MID$(STR$(s),2)"):";:INPUT·"",delay(s)
{LpAx} 1320·delay(s)=954*delay(s)
{KcAk} 1330·NEXT
{JrAl} 1340·CLS
{KuBm} 1350·LOCATE·1,1:PRINT"Fade-in·Y/N:";:
       INPUT·yn$
{RjBw} 1360·yn$=UPPER$(LEFT$(yn$,1)):
       IF·yn$="Y"·THEN·fadein=1·ELSE·fadein=0
{KiBo} 1370·LOCATE·1,3:PRINT"Fade-out·Y/N:";:
       INPUT·yn$
{KlCk} 1380·yn$=UPPER$(LEFT$(yn$,1)):IF·yn$=
       "Y"·THEN·fadeout=1·ELSE·fadeout=0
{AlAx} 1390·IF·fadeout=0·THEN·1420
{LxBt} 1400·LOCATE·1,3:PRINT"Clear·screen·fade·
       out·Y/N:";:INPUT·yn$
{GiBt} 1410·yn$=UPPER$(LEFT$(yn$,1)):IF·yn$="Y"·
       THEN·fadeout=2
{MjAk} 1420·CLS
{FmAv} 1430·LOCATE·1,1:PRINT"Effect"
{ErBo} 1440·LOCATE·1,2:PRINT"··(1)·Venetian·
       blind"
{IpBj} 1450·LOCATE·1,3:PRINT"··(2)·Fade·swap"
{CwBl} 1460·LOCATE·1,4:PRINT"··(3)·Straight·swap"
{CnBl} 1470·LOCATE·1,1:PRINT"Effect:";:
       INPUT·effect
{JnBk} 1480·IF·effect>3·OR·effect<1·THEN·1420
{LiAk} 1490·CLS
{GnAj} 1500·:
{HsBi} 1510·REM·Start·sequence·(fade·in·etc)
{MqAj} 1520·'
{DlAj} 1530·'
{PoAu} 1540·INK·0,0:BORDER·0:INK·1,0
{JoBi} 1550·FOR·p=1·TO·startdelay:NEXT
{KlBx} 1560·IF·fadein=1·THEN·GOSUB·1830·ELSE·
       INK·0,0:BORDER·0:INK·1,26
{FkAk} 1570·:
{CpBn} 1580·REM·Sequence·(load·pictures·and·fade·
       in/out)
{LnAj} 1590·'
{InAj} 1600·'
{PiAp} 1610·MEMORY·&3FFF
{IkAv} 1620·FOR·pictures=1·TO·screens
{JkBi} 1630·filename$=MID$(STR$(pictures),2)
{EoCj} 1640·IF·LEN(filename$)=1·THEN·filename$=
       "00"+filename$+".SCN"
{KoCj} 1650·IF·LEN(filename$)=2·THEN·filename$=
       "0"+filename$+".SCN"
{FkBs} 1660·IF·effect=1·THEN·LOAD·filename$,
       &C000:OUT·&F000,255
{IrCt} 1670·IF·effect=2·THEN·LOAD·filename$,
       &4000:OUT·&F000,255:GOSUB·1910:CALL·&10C:
       GOSUB·1830
{DkCt} 1680·IF·effect=3·THEN·LOAD·filename$,
       &4000:OUT·&F000,255:INK·1,0:FRAME:CALL·
       &10C:INK·1,26
{DuBl} 1690·FOR·pause=1·TO·delay(pictures):NEXT
{BuAl} 1700·NEXT
{BqAk} 1710·:
{KiBj} 1720·REM·Finish·sequence·(fade·out)
{MlAj} 1730·'
{FkAk} 1740·'
{FoAx} 1750·FOR·p=1·TO·finishdelay:NEXT
{NxBt} 1760·IF·fadeout=1·THEN·GOSUB·1910:INK·1,0:
       GOTO·1780
{JiCs} 1770·IF·fadeout=2·THEN·CLS:GOSUB·1910:
       INK·1,0·ELSE·INK·0,0:BORDER·0:INK·1,26:CLS
{DvAm} 1780·CLS
{GsAv} 1790·WHILE·INKEY(47)=-1:WEND
{LpAw} 1800·CLS:PRINT"Titles·finished:"
{CoAo} 1810·GOSUB·1830
{RiAl} 1820·END
{HwAk} 1830·:
{IxBk} 1840·REM·*.*.*.*.*·FADE·IN·SUBROUTINE
{EvAk} 1850·'
{GwAk} 1860·'
{OtAq} 1870·FOR·p=0·TO·26
{HwAu} 1880·INK·1,p:CALL·&BD19
{NpAl} 1890·NEXT
{DtAn} 1900·RETURN
{GiAk} 1910·:
{OjBk} 1920·REM·*.*.*.*.*·FADE·OUT·SUBROUTINE
{FlAk} 1930·'
{AoAj} 1940·'
{PwAs} 1950·FOR·p=26·TO·0·STEP·-1
{DsAt} 1960·INK·1,p:CALL·&BD19
{CnAk} 1970·NEXT
{NlAn} 1980·RETURN
```

VIDEO LEAD WIRING DIAGRAM



(Both viewed from front of pins)

COMPONENT LIST (FROM MAPLIN CATALOGUE)

PAGE	ORDER	DESCRIPTION	EACH	QTY	SUBTOTAL
131	XR26D	Multi-Core 6-Way	0.52	1	0.52
131	XR29G	Brown Low-loss Coax	0.24	5	1.20
158	HH17T	BNC Plug 50	1.28	1	1.28
167	HH29G	DIN Plug 5-Pin C	0.28	1	0.28
168	HH45Y	DIN Line Socket 6-pin	0.32	1	0.32
381	QL80B	1N4148 Signal Diode	0.04	1	0.04
				Cost	£3.64

With Maplin you must add £0.75 handling charge for goods under £10 and £0.75 postage and packing, bringing the total to: £5.14

Connect the lead as indicated in the diagram. I have specified 5 metres of coax, but you should order your own required length, as coax is expensive.

the computer to the monitor via the relevant weed:

Red-Green-Blue	(RGB)
Sync-Lum-Gnd	(Synchronisation, Luminance, Ground/Earth)

- The **RED**, **GREEN** and **BLUE** signals provide information about the respective colour.
- The **SYNC** signal provides a pulse which keeps everything in time.
- The **LUM** signal provides the monitor with brightness and contrast.
- The **GND** signal is a Ground/Return for all other signals

How the software works

The software works in a very simple way. To start with, various questions are asked of the user: How many screens, delay, fade etc. Once the initial input is completed, the program begins sequencing the screens in the following manner: (With the venetian blind effect, the screens are loaded one after the other without any fading, swapping etc.)

A. The whole screen is cleared and the background is changed to black and the pen to black. Effectively, nothing is seen.

B. After the pre-determined delay, the first screen is loaded into an area of memory not used by the screen, i.e. into a hidden area.

C. Then, determined by the effect (here we'll use fade swap), the image is swapped from the hidden memory to the screen memory, but it is not yet seen because the pen colour is that of the background colour.

D. Now, slowly, the pen colour changes from 0 to 1, 1 to 2 etc, up to 26. 0 = black, 26 = white. So, as the pen colour increases, so does the brightness.

E. When the pen colour is above 0, the image appears to be getting stronger, until a normal image is seen.

F. The next screen will now be loaded into the hidden memory area, while the displayed screen remains untouched.

G. The whole process is now reversed. The pen colour decreases until it reaches 0. Almost instantaneously, the screen images are swapped and then faded back up, creating a very professional effect from a simple piece of software.

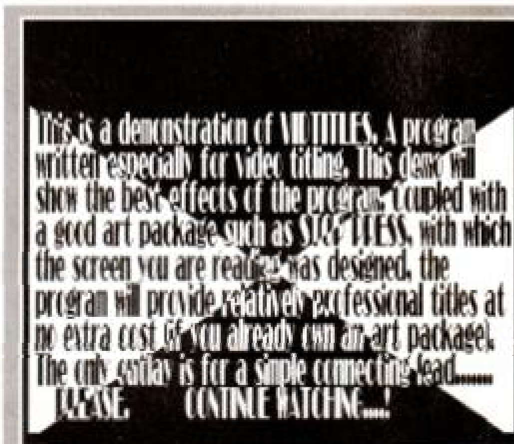
A source of inspiration?

I have many video cassettes containing various recorded TV programmes. To give them a more professional look, I considered buying an Amiga (!) for titles. But I was sure that my good old Arnold would come to the rescue, so the lead and program followed. Adding title and hi-fi music to the videos game an excellent effect.

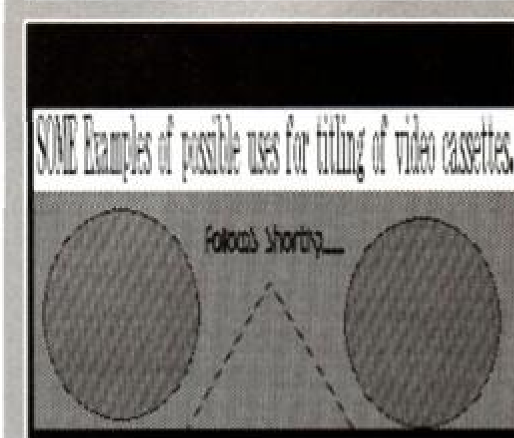
Future developments

I have a video with a Euroconnector (SCART) socket on the rear. This socket utilises the direct Red, Green, Blue, Sync, Lum and Ground signals. These signals can be connected directly from the computer to the video. This gives a perfect colour picture, better than that of the Amstrad Modulator.

Colour software is at the moment being developed, but due to the manner in which the black and white version operates, the colour version will be without the fade-in/out option, having instead just a straight swap of screens.







PC Plus



What's the only way of transferring files from a CPC to a PC and vice versa? Via a serial lead, right? Wrong! ADAM WARING examines three utilities that lets you read from and write to those 3.5-inch floppies directly...

Sometimes there just aren't enough hours in the working day to accomplish all those jobs you're supposed to. It happens to us all. Maybe you need to finish off that set of accounts. Perhaps your report has to be on the boss's desk first thing. Or it could be that you've got into the swing of things and want to carry on while the momentum is still there.

You can always work late at the office – but that's certainly not an ideal solution. Working at home may well be the answer. The only problem is you use a PC at work, while at home it's down to your trusty CPC to provide the computing power. It's an age-old dilemma. Just how do you get those *Wordstar* files from your PC into your CPC?

Tied down by cables?

An RS232 link is one answer. Stick a cable from one computer to the other and – with the right software – file transfer becomes a doodle. The problem, though, is that you need both machines to be sat next to each other on the desk. It would mean taking your CPC to work with you every time you wanted to transfer data. Not a very practical solution.

Well, how about using a modem? Distance doesn't matter with these – a normal telephone line serves as your link. Modems are a bit on the expensive side, though, especially as you need two – one for each machine. And someone has to stay behind to actually operate the office computer whilst transferring the data. Ho hum.

What's really needed is to be able to take your work home with you. Actually putting the data in your briefcase and bringing it back on the bus. A disk is the obvious solution, but no matter how hard you try, you won't get the PC disk to fit into your Amstrad's drive. At least not without causing extensive damage...

There is a physical difference between the types of disks the two machines use. The CPC uses the 3-inch standard. These have the advantage of having two distinct sides. It's effectively two disks in one – all you need to do is flip the disk over. A disadvantage is that the storage capacity just isn't enough for machines like the PC. The PC uses higher density 5.25-inch or 3.5-inch disks. They can be fomatted to 360K, 720K and the latest advances are seeing over a megabyte stored on a single disk. 3.5-inch drives are rapidly replacing the older 5.25-inch format. The smaller disks are sturdier and more reliable than their predecessors.

Second plug-in drives have been around for a long time for the CPC, in both 3.5 and 5.25-inch denominations. In order for the CPC to use a second drive, however, it really needs an extended Disk Operating System. The built-in DOS on the CPC can only cater for the standard 178K formats. To realise the full potential of these higher capacity drives, a new DOS available for the CPC allows formats of up to 800K. However the PC still uses a rather different format to the CPC – even when a new DOS is installed. So even though your PC disks now fit into the drive, they will be meaningless to your computer.

Howevr, three software packages claim to have the answer. They're all PC file transfer utilities, and all aim to make that working from home ideal a reality.

The Contenders

- Romantic Robot's offering has been around for quite a while, but has been disguised by the fact that it comes in a compilation of utilities. *RODOS Extra* costs just a tenner – but you need to have the RODOS ROM to use it in the first place.

  Mind you, to get any practical value from your high-capacity second drive you'll need an additional disk operating system anyway. After all, only using 178K of an 800K disk is rather wasteful. There are a number of other utilities included on the disk, making it quite a bargain for existing RODOS owners.
- Siren Software is the latest to provide a product in this field. Siren is well-known for its second drives. *PC-Trans* is a stand-alone product, and doesn't need any extra DOS to work. While it weighs in at a fairly hefty £24.95, it is likely that Siren will be offering an 'all in one' kit that includes one of its drives, an extended Disc Operating System and the *PC-Trans* utility.
- *Multi File Utility* is known as *MFU* to its friends and relatives. It hails from the Highlands of Scotland, where Moonstone has been producing it for years. Moonstone has since been pursuing other markets, however, and has not actively been pushing the product recently. However, a deal between the company and WACCI – everybody's favourite user group – is on the verge of being signed. Moonstone was selling the product for a whopping great fifty quid. Not exactly pocket money prices. However, WACCI is hoping to sell the product for a much reduced – and more realistic – price.

PC HISTORY

The CPC is a very powerful home computer. It is capable of running the tasks that business machines costing many times the price are designed for. Walk into virtually any office, though, and chances are that there won't be a CPC in sight. Instead, one type of computer dominates the offices of businesses all around the country. The IBM PC.

The IBM PC first say the light of day way back in '82. In an age where the average home computer had 1K of memory, no colour, sound or graphics, the PC was revolutionary. The earliest machines had 128K of memory and a tape port. Those early efforts have since been superceded by larger memories, better displays and updated hardware. So although the PC is not a very modern design, it has been constantly kept up to date. Indeed, a lot of the latest advances in computer technology will be found in the casing of the high-end PCs.

The IBM PC and its flotilla of lookalikes is king in the commercial world. PCs are designed specifically for business use. Their large memories allow them to store the vast amounts of data that businesses have to cope with. Hard disks are virtually standard on PCs. The machines are expandable, allowing add-ons to handle a variety of specialised uses. They also tend to be robust and reliable, which makes them suitable for the every-day battering of the office enviroment.

But if the PC is based on such an old design, why hasn't it been replaced by a more modern, better and cheaper computer? Surely abandoning the ancient technology would remove all the constraints that are placed on the machine. The reason is simple: standardisation. There are so many PCs out there that it would mean replacing millions of existing computers – plus large quantities of peripherals. In addition, business software is very expensive stuff. PC word processors can set you back hundreds. No one is going to throw all that away to buy a new machine, when the latest, fastest PC will continue to work with their existing hardware and software. That's why PC owners almost invariably upgrade to better PCs rather than any other format.

WHERE TO GO

RODOS Extra ● £9.95 (Needs RODOS at £29.95 to work) ● Romantic Robot ● 01 200 8870. NB: RODOS is often bundled with second drives – phone around for the best deal.

PC-Trans ● £24.95 ● Siren Software ● 061 228 1831

Multi File Utility ● Price to be arranged ● WACCI ● 081 898 1090

Results

As a bench test, we used each system to transfer an identical 10K text file from the CPC onto a 3.5-inch PC disk. The timings were from the last key being pressed to the program coming up with the 'file transferred' message.

A look at the table shows that there's very little between the *Multi File Utility* and the *PC-Trans* programs. *RODOS Extra* lagged way behind, taking over five minutes for a job that took the others a matter of seconds. The reason is that *Extra* is written in BASIC. And unfortunately, it's just too slow to useable. It's OK for the occasional transfer, but for regular use, forget it.

PC-Trans is very easy to use. The disk consists of three programs, PCREAD, PCWRITE and PCFORMAT. Run any of the programs and you are presented with a simple list of options. You're not told about sectors, step sizes, or any technical information. All you see is a nice simple front end, while program gets on with the complicated bits.

Now although *PC-Trans* showed a fair turn of speed writing to a PC disk, it must be said that reading from a disk was a totally different kettle of fish. The PCREAD program is on a par, speed-wise, to *RODOS Extra*.

Writing to the disk is much quicker, but that too has limitations. You have a maximum of just twelve files on a disk. Even worse, you can only write to disks that have been formated with the program PCFORMAT. You cannot write to disks formatted on a PC. And though a PC is able to read a disk written by PCWRITE, it is not a true PC disk. If you try and save to the disk from the PC, you'll corrupt files written by PCWRITE. Now this is annoying and limiting. Take home your PC disk and you can copy the files across from it. But you need to re-format another disk before you can send them back again.

Transfering PC data is just a tiny part of the talented *Multi File Utility's* capabilities. The main purpose of the program is to transfer CPM programs from other formats onto 3-inch disk. This opens up a whole spectrum of previously unavailable CPM software. It caters for virtually every type of format under the sun. It comes with an extensive manual explaining everything you ever wanted to know about disk formats (and plenty that you didn't). *MFU* is the fastest of all three programs when it comes to swapping files with the PC. It's quick at both reading and writing. Additionally, it caters for wildcards, so whole disks can be copied in one go – a feat which neither of the other packages were capable of. *MFU* took just over two minutes to transfer a full CPC disk containing 31 files onto a PC disk.

Conclusion

RODOS Extra does the job, but only just. It's slow – far *too* slow for frequent use. Saying that, the package does offer a multitude of bits and pieces for RODOS owners, and for the occasional transfer it may be acceptable.

PC-Trans, though faster than *Extra*, is really a half-hearted attempt. The fact that you can only write to disks that have been formatted by the program cuts down its usefulness considerably. The 12-file limit too poses problems. It is the most straightforward of the three to use, but it still gives the impression of being bodged together.

Multi File Utility stands head and shoulders above the competition. As well as allowing PC-CPC transfer, it offers a whole host of features. It is extremely competently programmed, and very comprehensive. If you intend to transfer data on a regular basis then consider no other. *MFU* is tops.

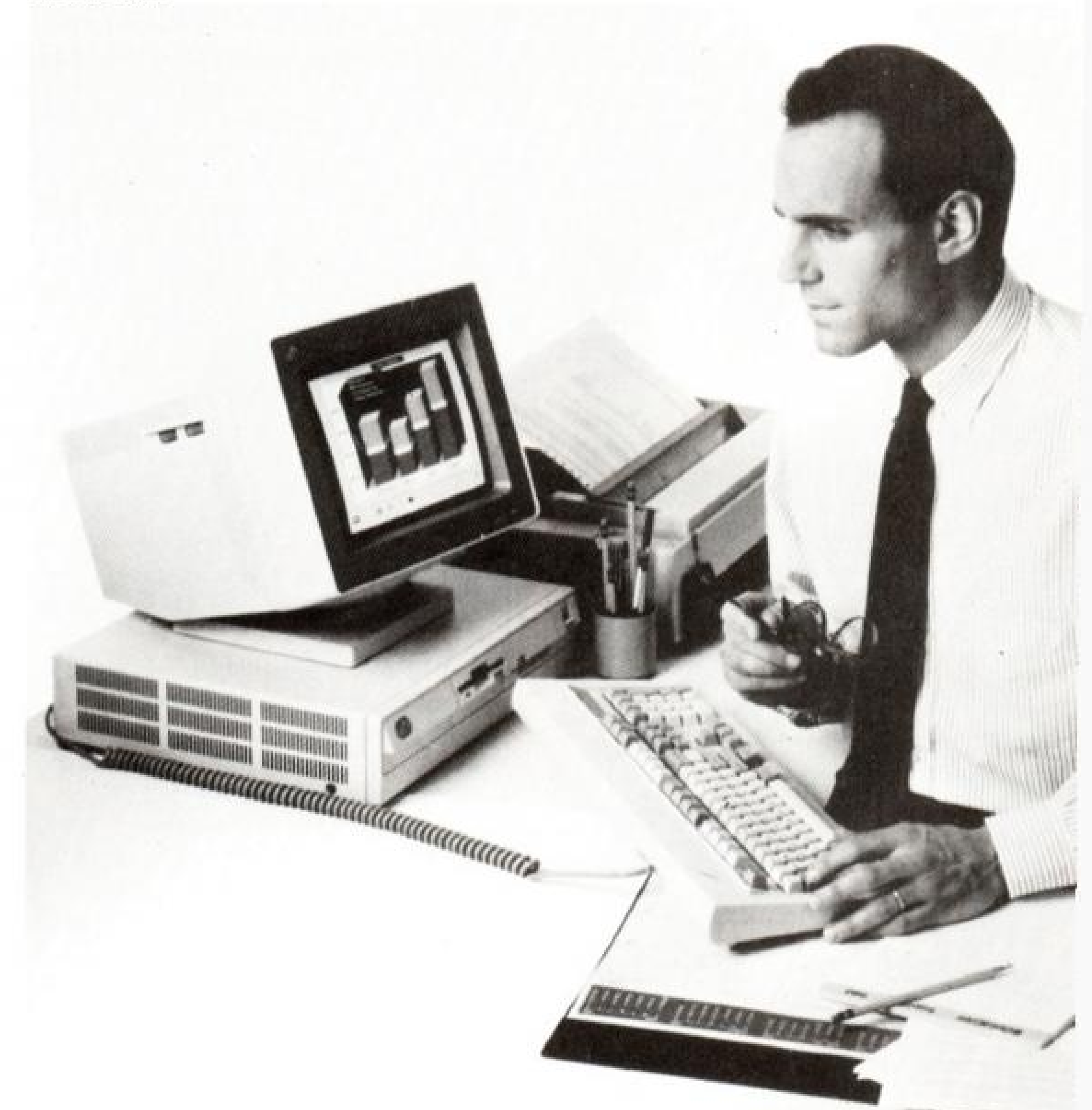
WHAT TYPE OF DATA?

So what kind of information will you be able to pass between the two machines? Well, you'll be able to transfer almost anything. However, that doesn't mean that you'll be able to make use of everything you port across...

Different packages use different methods of storing data. Having *Cardbox* on the PC doesn't necessarily mean that you'll be able to use the records in your CPC database.

Programs too can be transferred. However, you may as well as be speaking Greek as trying to run a Locomotive BASIC program on your PC. The ability to transfer information is one thing. Finding a use for it is another.

Word processor files will probably be the most common candidates for file transfer. Both machines use the ASCII character set, and word processors on each can read ASCII files.



TIME OUT

Time taken to transfer a 10K file from CPC to PC disk:

RODOS XTRA	316 seconds
PC-Trans	15 Seconds
Multi File Utility	12 Seconds

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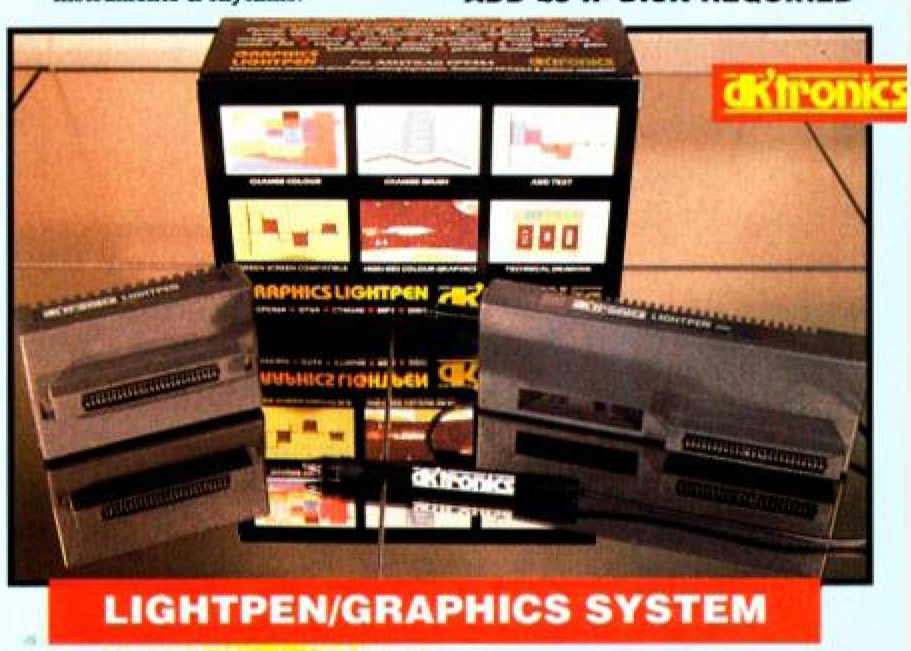
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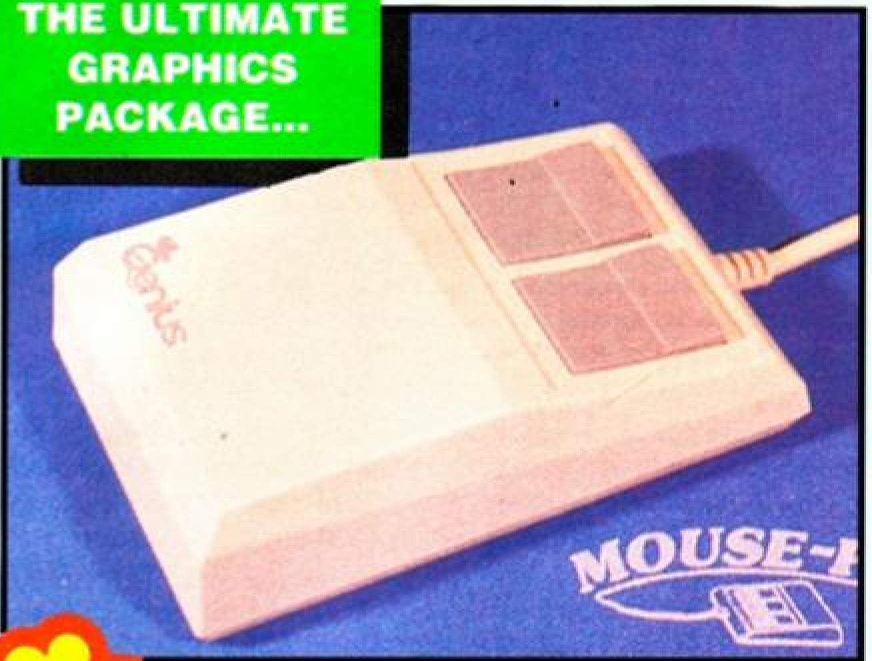
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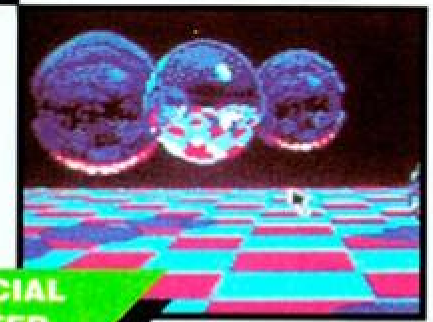
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NOTES - please read
Ramdos is the only one of the 3 operating systems that will work in CPM. When buying Romdos, the Ramdos disc is also included. Rodos version 2.15 and Protext do not work together.
Please phone to confirm the availability before ordering a 6128 rom.
The Romboard Xtra is now sold out and no more will be produced due to the lack of availability of the 6128 rom.
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Forum

Doctor Waring dons his stethescope for another pile of problems...

● Clip round the ear

I was reading *New Computer Express* the other day when I noticed a bit in the C64 column (yuk). It said that it was possible to reset the computer by using a straightened paper clip on the correct pin. Is this possible on the CPC, as in the manual it does say that there is a pin set aside for reset?

Daniel Oates
Cambridge

It's perfectly possible to add a reset switch to the CPC, I don't know about this paper clip business though, sounds a bit dodgy to me...

You'd be far safer using a proper push button switch. It needs to be wired between pins 41 and 49 on the expansion port. Best to use a proper edge connector, rather than soldering directly to the circuit board, though.



● Wire together pins 41 and 49 on the CPC's expansion port to make a Reset switch.

● A bit short

I have just purchased a Star LC10 (mono) printer for my CPC464 and have so far worked out how to use control codes. When I came to do graphics on it I found it would not print out the top dot in a column, I then printed out a hex dump and have found that the computer is not sending the number 128 (hex 80) to the printer, but it sends other numbers OK. I have looked at the computer manual but it just states that some computers alter the values of certain codes.

Please could you tell me if the computer is at fault, and if I can do anything about it.

C Matthews
Birmingham

The CPC's printer port is an industry standard Centronics parallel interface. Well, not quite standard. While Centronics uses eight pins to relay information, the CPC only has seven. It's one wire short of a full cable. The effect of all this is that the CPC cannot send numbers greater than 128 to the printer. Anything above that number will simply come out with 128 subtracted from it.

It can be fixed, though. For the sum of £19.55, KDS Electronics can supply you with a full 8-bit printer port. Call 04853 2076.



● Which is the best art package for your CPC?

● Artist's impression

I own a 6128 and I want to buy a good graphics package. I want one that has lots of features and one that can print out the image. I have heard of two graphic packages. They are the *OCP Art Studio*, and the *CRL Image System*. Please could you tell me which is better and what other packages there are and what they are like. I would like to point out that I am fifteen and do not have a lot of money to spend.

I would also like to find out why I can't copy *Mini Office 2* or *Chase HQ*. I tried, and failed, using my CP/M disk. I used *Diskit3* to make a copy of CP/M and it worked, but not with these two programs.

Edward Griffiths
Camberley
Surrey

Both the CRL Image System and OCP Art Studio are excellent drawing utilities. However, if you really want my opinion (and that's all it is – an opinion), then I'd advise you to go for Advanced Art Studio. *It has a friendly pointer system to select the options, making it ideal for beginners.*

Diskit3 *is fine for copying standard disks, but commercial products tend to use a non-standard format. The reason is to try to prevent people doing exactly what you're trying to do – make copies of software. The software houses are concerned that if their disks are easy to copy then they will be more readily pirated.*

● Thanks for the compliment

Please help me! I have recently acquired an Amstrad 6128 having decided to advance (?)

● All cut up

Can you help me with my problem on my CPC and GT64 monitor.

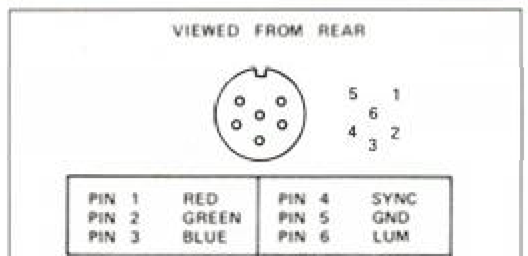
My problem is with the monitor output plug and the wires within. When I bought the monitor and keyboard second hand, the monitor was not working. However, I was shown the keyboard working with another monitor and it worked fine. I have bought a 6-pin plug, but don't know how to wire it up. Can you help?

I went to the computer shops here, but cannot afford the £25-£50 they want to put it right.

Stephen Frydrych
Alloa
Scotland

You are sure that this monitor is actually in working order once you've connected the plug, aren't you Stephen?

There's a diagram in the manual, explaining the monitor pin-outs. Let me guess, being a second hand machine, it came without one.



● The CPC's monitor socket pin-outs.

Having been denied permission to dissect our monitor cables here, I'm going to have to rely on a certain amount of guesswork.

I'd put my shirt on the red, green and blue wires connecting to the pins marked red, green and blue (blimey!). I would also expect the black wire to attach to the ground pin. As for the two remaining wires, I'm fifty per-cent certain that the brown one goes to sync.

Rest assured that you won't damage your machine by connecting the wires incorrectly – so if I'm totally and utterly wrong (likely), then try a few different combinations.

from a Speccy which, I may add, I still use to confirm what the Amstrad produces. Hence my problem has evolved. The memory of my Speccy is quite straightforward, but when I started to delve into the 6128's memory, I have got totally mud-bound.

How does the HEX system work? I have read the manual, but I'm afraid that it does nothing for me in this line at all. Perhaps being of Sixty-Eight has something to do with it, but I cannot make any sense of it at all.

When I ask for the HEX$(65535) I get FFFF and that makes sense, but when I request PRINT &FFFF I get -1. Likewise, 65536-6700 gives me 58836. So I request HEX$(58836) and get E5D4 (bang on), but when I PRINT &E5D4 I get -6700. So there goes my problem, why this complicated system? I have wondered why, when going over some programs, the codes appeared to be entered into negative numbered memory locations.

It appears to me that for some reason the Amstrad appears to subtract the HEX number requested from 65536, and prints the answer.

I use my Speccy to control various add-ons, i.e. railway layout, a weather station, and one or two other items. I would like to use the 6128 to do the same, but as yet have not found anything definite in how to use the in/out port. Is it similar to the Speccy, using the PEEK and POKE commands to memory allocations.

I will leave it at that just now because I think I am beginning to lose myself in the innards of the 6128. I hope that you can help me out. I do like the 6128, but its biggest fault is the manual. It appears to me to be next to ridiculous, but maybe I am biased as the Sinclair manual is very comprehensive and user friendly.

G Carhill
Stonehaven
Grampian

Crikey, what a question! We're going to have to get into philosophical mode for this one kids!

The problem is that, in the real world, negative numbers do not exist. They are simply a figment of your imagination. You just can't have a negative amount of anything, it's impossible. (I tried telling that to my bank manager, he wouldn't have any of it.)

For instance, If someone asks you how many fingers they are holding up you'd say three, or four, or whatever. You wouldn't say: "Well actually, you have minus one fingers." No, the whole idea's absurd.

So for computers to store negative numbers poses a problem. As they don't really exist, computers have to pretend, just like we do.They can only store positive numbers. The way to get round it is to use some of the positive numbers as negatives.

A common way of storing numbers in computers is by a method called two's compliment. Computers use a binary system – that is they have a number of bits, each having a value of either nought or one. Each consecutive bit effectively doubles the numerical range. The CPC has 16 bits allocated to its address bus – that works out at a grand total of 65536.

Two's compliment works like this. If the top bit is set, regard it as a negative number, counting down backwards from zero. So the binary number 1111111111111111 equals FFFF in hex, and -1 in two's compliment. FFFE equals -2, and so on until you reach 8000 equating to -32768.

The resulting range is between -32768 and +32767. The CPC stores all integer numbers in this way. When the CPC evaluates a hex number, it converts it to an integer. It can be bloomin' annoying at times, but there you go.

You can access the in/out ports with the commands INP and OUT. These work in the same way as the Spectrum's IN and OUT. To output the number &48 to port &BC04, you'd use OUT &BC04,&48. Likewise, X=INP(&BC04) will input from that same port.

● Case work

Can you help please? Where can I get protective sleeves or individual plastic cases for my three inch disks?

Tom Godwin
Maidstone
Kent

PCW-World will sell you the plastic cases. Call 0384 66269.

● So what's new?

I have subscribed to your magazine since the early days, and have enjoyed watching it mature over the years. I thought it was about time to write.

Firstly I'm pleased to see a growing trend in 'hobbyist' computing, i.e. not straightforward games, but not serious either. Things like MIDI music and comms. Each one worth a thousand shoot-em-ups. Since getting a keyboard and MIDI interface, my joystick has hardly seen the light of day.

Secondly, like many others with a 464, I was tempted, and bought a 6128 ROM from WACCI to upgrade. Having had some experience of soldering and a back copy of *AA* with instructions, I saw no difficulty ahead. How wrong! Without specialist de-soldering equipment the removal of the chip from the circuit board is very difficult indeed, as is the installation of the new one. I had to resort to professional help (thanks Spectrum, Oxford) in the end to clear up the mess. I would recommend anyone thinking of attempting this upgrade to get it done professionally first before making a cock-up.

Leading on from this, I've upgraded – so what? I now can run several games (*Gunship* and the excellent *Pirates*) previously unobtainable. What else, i.e. what new commands are now available in programming? The only one I know is FILL. What else is there? Please, any chance of the additional commands for the 6128 over the 464, or do we all have to buy a 6128 manual?

Jim Treadyohl
Launton
Oxfordshire



● You can upgrade your 464 with a 6128 ROM – but what does it let you do?

There are two types of 464 as far as upgrading the ROM is concerned. The earlier models, where the chip is fitted into a socket, and the later types where it's soldered directly in to the circuit board.

My advice would be to check the machine to see whether it's socketed or not. If it's not – forget it! It's certainly no easy task to de-solder a 28-pin ROM.

So what does your souped-up ROM offer? Well, I'm going to have to be brief. Experiment with the commands to find their best usage.

● *Apart from commands in the table below, these commands cater for an additional parameter:* `PEN DRAW DRAWR MOVE MOVER PLOT PLOTR`

● *Also, strings can be incorporated into these commands directly:* `PRINT USING |DIR |DRIVE |ERA |REN`

ADDITIONAL 6128 COMMANDS

`CLEAR INPUT`	Empties the keyboard buffer
`COPYCHR$(#stream)`	Copies a character from the specified stream.
`CURSOR system,user`	Switches the cursor on and off.
`DEC$(number,template)`	A decimal string of the number using the template.
`DERR`	Reports the last error code produced by the disk system.
`FILL ink`	Fills an area with the specified ink.
`FRAME`	Waits for a frame flyback, used to synchronize graphics.
`GRAPHICS PAPER ink`	Sets the ink of the graphics paper.
`GRAPHICS PEN ink,mode`	Sets the ink for plotting and drawing, and the backround mode.
`MASK integer,point`	Sets the template used for drawing lines.
`ON BREAK CONT`	Disables the ESC key.

● Taken into account

I have some additions to ACCOUNTS by Iain Kerr (*Type-Ins, AA56*). These give a printout statement. Lines 200 should be changed, ant the others added to the program.

Andrew Helsby
Emswork
Hampshire

```
200 ON a GOSUB 230,500,790,1400,1000,990,1030,1280,1010,1020,1950,1380,2730

2720 'Print Routine
2730 t=0:z=0:m=0:d=0:sp=1:GOSUB 1950:OPENIN month$:IF deb=0 THEN GOTO 2760
2740 q=INSTR(month$,".")-1:month$=MID$(month$,1,q)
2750 PRINT#8
2760 IF deb=0 THEN PRINT#8,SPACE$(10);"Credit for month of ";month$
2770 IF deb=1 THEN PRINT#8,SPACE$(10);"Debit for month of ";month$
2780 IF deb=1 THEN paid$="Paid to" ELSE paid$="Paid by"
2790 PRINT#8:PRINT#8,"Date","Notes";SPACE$(17);paid$;SPACE$(19);"Amount
2800 FOR w=1 TO 67:PRINT#8,"-";:NEXT:PRINT #8
2810 INPUT#9,a$,b$,c$,d
2820 PRINT#8,a$,b$;SPACE$(22-LEN(b$));c$;SPACE$(24-LEN(c$));
2830 IF d=0 THEN PRINT#8 ELSE PRINT#8,USING("####.##");d
2840 z=z+1:t=t+d:m=m+d
2850 IF EOF=0 THEN 2810
2860 PRINT#8,SPACE$(51);"----------------"
2870 PRINT#8,SPACE$(51);"Total  =";
2880 PRINT#8,USING("####.##");t
2890 PRINT#8,SPACE$(51);"Balance=";
2900 PRINT#8,USING("####.##");bal
2910 PRINT#8:PRINT#8
2920 CLOSEIN:RETURN


1920 DATA 20,22,D Print Statement
1930 DATA 0
```

Thank you for the modification Andrew. I have received quite a few requests for such an amendment.

● X-Press delivery

I have the answer to J Tucker's enquiry (Bad driver, *AA57*) regarding the longer pages he gets on his LQ3500 printer with *Stop Press*.

The problem is completely rectified by buying *X-Press*. The condensed printing options supported by this program give correct page lengths on 24-pin printers for pages produced by *Stop Press*. I guess that his printer is a 24-pin job. Selection of printer drivers within *Stop Press* is unlikely to solve his problem as it's due to the physical size of the pins and the way images are made in *Stop Press*. Of course he will also have all the other goodies available with *X-Press* as well. Such as seeing his pages about 30 minutes sooner when he prints them, and being able to get more than four on a disk.

Chris Medway
Southampton

By the way, Chris, you forgot the bit about X-Press *being a bargain at only £24.95, and being available from Medway King, 77 Maldon Road, Bitterne, Southampton, S02 7AF.*

● On the record

Recently I have run into a spot of bother with my CPC464, namely that when the play button is pressed to load or RUN a program, the cassette seems to get written to instead of being read. This has the effect of pressing record and play, and the files are erased.

Fortunately, I have not lost much valuable software, although many hours of programming have been lost, and I am unable to do much with my computer. I would therefore appreciate the it very much if you could suggest a remedy, or shall I have to get it professionally repaired.

Also, if I manage to restore it to a working condition, again, would *MAXAM 464* be the best assembler/disassembler for my 64K tape machine? I would very much like to begin assembly programming.

Gordon Kyle
Carrickfergus
Northern Ireland

Take your computer to your nearest radio repair shop immediately, Gordon. The sooner you do, the sooner you can start CPCing again.

Maxam 464 *would be a first class system for your machine. There are many happy users out there who swear by the package.*

● What's the point

OK, Yeah, so I'm stupid, and don't know nothing, but who cares. I've been like it a long time now, and I'm too old to bother about it.

So I'll ask the question.

What the hell is the point of the Type-In MEMDUMP? (*AA55*). I've typed it in so religiously, with all the checksums correct, but whatever address I enter, it always gives the same result. (And what is the use, even if it didn't?) As far as I can see, all it does is give something on the screen without any benefit being obtained. You might as well just type in words on the screen and it would be just as exciting as looking at this thing.

And don't tell me that if I don't like it, to send in something better, read the first paragraph again. *It's da trute.*

So, have you got an answer?

David Mitchell
Clacton-on-Sea
Essex

Did you actually read the intro before you typed the program in? MEMDUMP is not designed to be pretty to look at, instead it's supposed to show you the state of the computer's memory.

I think it's a very useful utility. It shows programmers and hackers just what is going on inside those slices of silicon.

● Shirts off

I read in Forum recently about a way of designing T-Shirts on the CPC and I know how a much easier and cheaper way of doing it.

- Mix a yoghurt pot full of three parts water to one part turps.
- Moisten the picture with this solution.
- Place T-Shirt on top and rub down firmly using a rolling pin.
- If the picture has transfered OK then spray with artist's fixative. If not then it will wash out easily enough.

Although this isn't hi-tech or anything, it does the job.

J Falkes
Roslen
Northern Ireland

Don't forget to eat the yogurt first. There'll be more hot fashion tips next month...

● What's in a name

Here are a couple of simple tips for users of CP/M+ based systems, such as the Amstrad CPC6128. If you are new to CP/M you may find it a little daunting at first.

If you wish to catalogue a disk, you must first type DIR. Unfortunately this will only produce a list of files on the disk, and no other information. To get a catalogue with a list of files, their lengths, and how much space you've used you are supposed to type DIR [FULL], which runs the program DIR.COM on your disk.

I would recommend renaming this file by typing `REN CAT.COM DIR.COM`. Now typing just `CAT` will give you a full catalogue. You can still specify a drive, for example `CAT B:`

Similarly, to copy files you use a program called `PIP.COM` invoked by typing PIP. Now at first thought it would seem natural to re-name this file `COPY.COM`. However, I would recommend `REN LET.COM PIP.COM`. Now you can type in things like: `LET B:=A:MYFILE.TXT` which works in a very similar way to assigning variables in BASIC.

Jacko
Swansea

Cheers Jacko.

CRACKING THE CODE

Muddled by machine code? Hung up on hex? All your machine code queries answered (in strictest confidence of course). Simply write to Cracking the code, Amstrad Action, Beauford Court, 30 Monmouth Street, Bath, Avon BA1 2AP. Sorry, we can't reply personally, we can only print answers in the mag.


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CHEAT MODE BOOK OFFER

You've seen the covermount (*AA*56), you've read the blurb – now buy the book! *Cheat Mode II – The Revenge* is out, and available only from your friendly neighbourhood mail order department. Read on...

All you old timers out there *must* remember *Cheat Mode 1*, the collected hinting, tipping and poking wisdom of *Amstrad Action*'s first sixteen issues. This magnificent 92-page epic was snapped up in its thousands by eager *AA* readers looking for a way to take the sting out of their fave games...

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Mind you, typing in all those listings is OK for practiced BASIC-bashers, but can be fraught with "Syntax Errors" and "Unexpected NEXTs" for the rest of us... which is why *Cheat Mode II* is also available with cassettes containing all those pokes!

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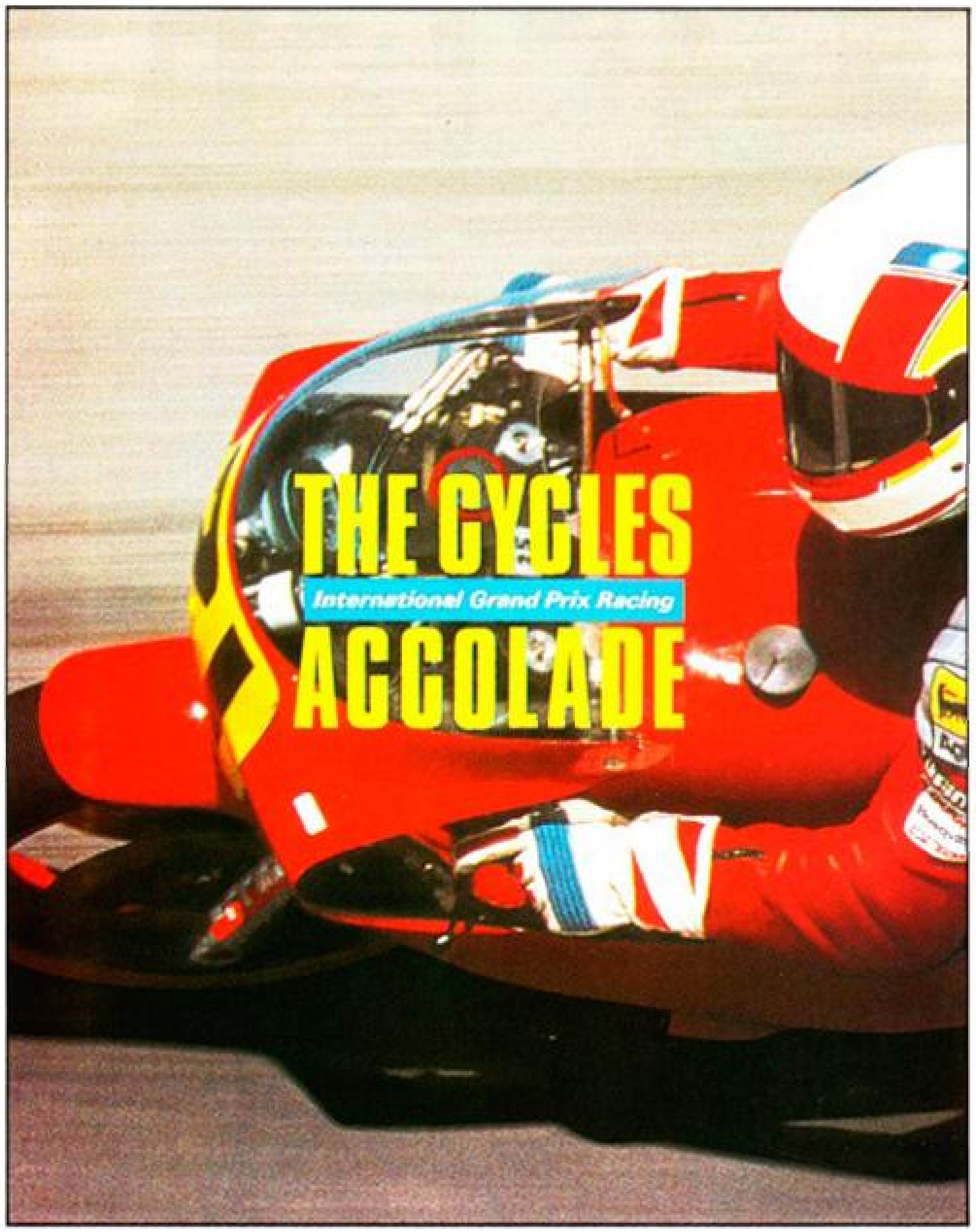
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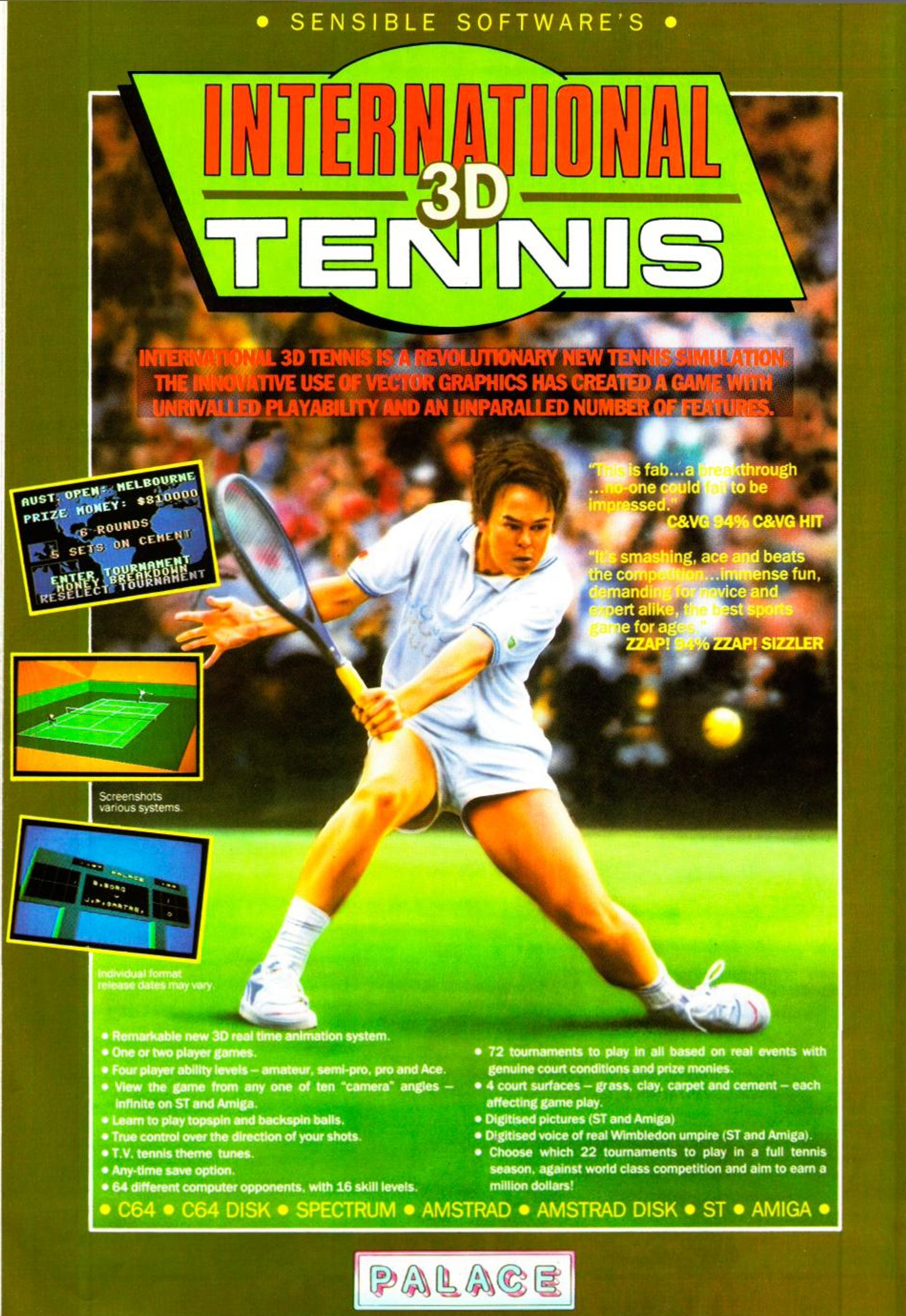
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PALACE

Sounding off

In the second in his series on the CPC's sound chip, JAMES PINTO lifts the lid on envelopes...



Although at first sight the concept of sound envelopes look very complicated and long-winded, the principle behind them is very simple. You hear sound envelopes occurring all the time in the world around you. A bird singing has its own unique sound envelope, a bullet shattering a window (*Trenton! How many more times? Put that M-16 down...*) has its own sound envelope and even someone blowing their nose generates a unique sound envelope. (Try it!)

A sound envelope is simply the *shape* of a certain sound. Different sounds have different shapes. A violin playing a single short pizzicato (plucked) note has a short envelope because all the sound happens very quickly and then stops, whereas a jet plane approaching, passing by and disappearing over the horizon will have a long envelope because the sound starts very quietly, gradually gets louuder, reaches a peak of loudness and then gradually dies away. Look at diagrams (1a) and (1b) to compare the envelopes for these sounds.

Diagram (1s) Pizzicato Strings



Diagram (1b) Jet Plane envelope



As you can see, when the sound envelopes are drawn it is easy to imagine the sound as the envelope tells you (in essence) what the sound sounds like without you even having to hear it.

The principles of sound envelopes are the same for any machine or object which creates sounds. All synthesizers and most samplers use envelopes, as do all computer sound chips. (Except maybe the Spectrum, ho ho ho...) The majority of recent professional keyboards such as the Korg M1 and the new Ensoniq VFX allow you to combine sampled sound data with digital waveforms and then shape the resulting sound using ADSR (explanation coming up!) envelopes, all of which enables you to produce unique new sounds simply.

Although comparing the sound quality of the above keyboards with the the CPC's sound quality is like comparing New Kids On the Block (Yo! Are you tough enough? We're rough!) to Beethoven (Da Da Da Dummmm...!), the principles behind the sound envelope creation on all three machines are the same.

All sound envelopes consist of four main sections. These are:

1) ATTACK
2) DECAY
3) SUSTAIN
4) RELEASE

1) Attack

This section of the envelope is almost self-explanatory. It is simply the time that the sound takes to 'attack'. If the attack is slow, as in the envelope of a strings section , the sound will take a while before it reaches maximum volume. If the attack is fast , as in the envelope of a piano and other "hammered" instruments, then the sound reaches maximum volume virtually instantaneously.



● Pizzicato (plucked) notes played on a violin, provide an excellent example of a short sound envelope.

2) Decay

After the initial attack produced by an instrument, the sound moves in to the decay section. Using a piano as an example will probably illustrate this the most clearly: when you hit a key on a piano keyboard you will hear the attack of the hammer hitting the string. Then the sound decreases in volume quite considerably as the string vibrates from the force of the hammer. The time taken for the sound to reach a constant level after the attack is the decay time. Many of you (if you're into music, or if you listen to the charts regularly) will be familiar with a sound known as an "Orchestra Hit". This is a sample of a quick chord played by an orchestra and you hear it very often in records by the Petshop Boys and New Order. The Orchestra Hit envelope, as you may have guessed, has a very short attack and a very short decay section and usually a small sustain section. This, I hope, makes the definition of DECAY a bit more vivid and easy to remember!

3) Sustain

After the sound has reached a steady volume (arrived at via the DECAY section), it holds the volume at this level for the length of time specified by the SUSTAIN section. A good analogy for remembering what the sustain section does is to think of it as an evil Spectrum owner attempting to run away from a gang of rampaging AA readers but being prevented from doing so by the heroic editor of this fine publication who has the poor blighter in his iron grip... (*Er... yes – ed.*)

In other words, the sound does not decrease in volume until the sustain section has finished. String instruments have long sustains as do most wind instruments. Instruments with short sustains are the most hammered ones (Pianos, Xylophones, Marimbas). **[Marimba: Latin-American percussion instrument consisting of a set of hardwood plates placed over tuned metal resonators, played with two soft-headed sticks in each hand - *Collins Concise Dictionary*, so there!]**

4) Release

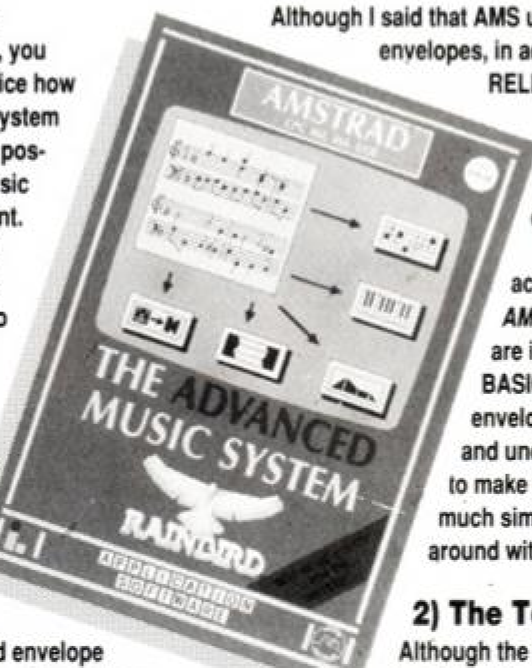
The release section is the time taken by the sound to reach zero volume once it has completed all of the other sections. As with the other sections in a sound envelope, the release time varies drastically from instrument to instrument. A piano with the Sustain pedal being pressed will have a long release time, as the sound takes a considerable time to fade away, but a piano without the pedal being pressed loses volume rather quickly. It is interesting to note how differently the same instrument can behave when played in a different manner.

● Well, that's the theory behind sound envelopes and the way they work. Next time, I'll be putting the theory into practice by explaining the ENV and ENT commands in full.

THE RAINBIRD ADVANCED MUSIC SYSTEM...

... and its extended enveloping facilities

If you have ever used the *Advanced Music System*, you cannot have failed to notice how flexible and easy to use the system is. Everything that you could possibly need for composing music on the Amstrad CPC is present. The only serious omission is the absence of a sound module – that would enable you to use the music you create with *AMS* in your BASIC programs. Putting this aside, the *Music System* must be one of the most pleasurable programs I have ever used!



One of the things that I find most satisfying about the *AMS* is its extended envelope facilities. These enable the user to produce sounds that would not normally be possible simply by using the standard ENV and ENT commands.

As we have not yet covered ENV and ENT, I am only going to discuss the theory behind the extended facilities of the *Music System*, as I have done above with the standard envelopes. This is so as not to confuse you all (what a kind chap I am, eh?). The practical stuff accompanies the ENV and ENT tutorial in the next instalment!

The *Music System* has 7 envelopes available to the user for placing anywhere in the tune. Each envelope consists of a volume envelope and a tone envelope. Noise can be set for each of the 7 envelopes and this can be in the range <0-31> as in CPC BASIC.

1) The Volume Envelope

The envelopes in *AMS* are laid out in a much clearer and more logical manner than the CPC's method of enveloping. In *AMS* you define your volume envelope using ADSR envelopes as discussed earlier. This makes sound creation much easier and simpler, especially for the beginner.

Once the SYNTHESIZER module of *AMS* is accessed, six little boxes appear. The first three boxes represent the ATTACK section and the second column of boxes represent the DECAY section of the note. The SUSTAIN section is automatically defined by the volume of the note.

Although I said that AMS uses standard ADSR envelopes, in actual fact the RELEASE section has been merged with the SUSTAIN section, presumably for ease of use.

Although the actual parameters of the *AMS* volume envelope are identical to the CPC BASIC ones, having the envelopes laid out in a neat and uncluttered manner help to make creating envelopes a much simpler task than fiddling around with loads of numbers.

2) The Tone Envelope

Although the Volume envelope section of *AMS* may be identical in structure to BASIC, the Tone Envelope part of *AMS* has been severely beefed (pardon me, I mean chickened! – topical joke. Please yerselves...) up by the programmers. The great thing about the *AMS* tone envelope is that you can set it to repeat the waveform you create until the cows (whoops!) come home. This means you can create wonderful vibrato and tremolo effects as well as passable attempts at string sounds and other such instruments. Obviously you're not going to have string sounds like on the Acorn Archimedes (with its 8-channel stereo sound and a sample rate of up to 4kHz!) but if you ignore the CPC's limitations you can make some quite pleasant "computer instrument" sounds.

This "looping" function also allows you to do some pretty impressive pitch-bend effects and some rather funky sound effects. It's a pity that you can only use a maximum of seven envelopes within a tune. This means that if you wanted to use pitch-bend effects that bent the pitch up and down you would need one envelope to bend the pitch up and another to move it down, leaving you with only five envelopes to use for the rest of the song. However, efficient use of the seven envelopes provides you with the ability to produce music of a quality that only the *Advanced Music System* can produce. The only problem is that you can't buy it any more!

MEGAGAME

Blockbuster!

Code maestro ADAM WARING brings you part III of his definitive series on writing your own best-selling game. This time: improving your appearance...

A game cannot live on code alone. There's a lot more to it than just churning out the program. The programming determines the playability and nature of the game, but good graphics and sound provide the polish and govern the instant opinion. A visually poor program just won't appeal to the punters. Hit them with sensational sonics and stunning screens, though, and you'll have them reaching instantly for their wallets.

A game needs to grab your attention to even get a look in. It's all very well saying: "Well, the graphics aren't up to much, but once they start to play they'll be hooked." You need the graphics to get them to play in the first place. It's great graphics and superb sound that make your game stand up as a finished product.

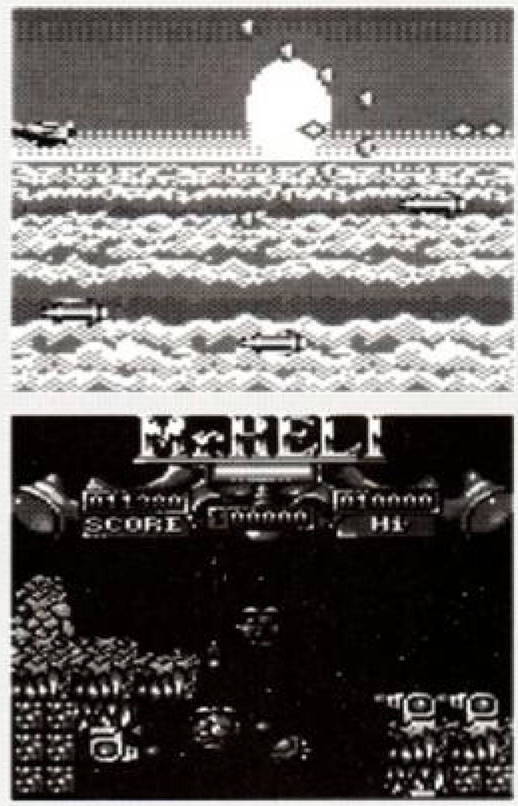
There are three areas of the game that you won't be able to knock up on an assembler. Firstly there's your graphics. Let's face it, being unable to see anything would make playing it a tad difficult. Then there's the sound. Though a game can function perfectly well without it, it'd seem a little, well... *lacking* without any. The other thing on the list is the design of the game layout. The information that tells your program what goes where. If your game didn't have any levels to explore or anything to do, it would be a just a teeny bit boring, wouldn't it?

Pretty as a picture

When graphics are printed to the screen, as far as the computer is concerned it's just moving a chunk of data from one place to another. Whether that data is a beautifully-drawn and brilliantly detailed alien, or just a lump of random garbage, it makes no odds. Your CPC just doesn't care. It's up to you to put the work in.

Visuals are very important indeed. They are second only to the code itself, and can be critical to the game's eventual success. Good graphics can carry a bad game, and bad graphics can spoil a good one. It's vital, therefore, that a lot of thought, time and effort is put into the creation of the graphics.

Some gifted bods will be able to draw their own graphics in addition to writing the game. Sadly, not everyone is able to do this. If you're firmly in the catergory that can't (all the best programmers are!) draw to save their lives, then it may be necessary to employ the talents of a graphic artist. It could be either a friend who's a dab hand with *Art Studio*, or a professional who draws computer graphics for a living.



● **Stunning graphics are sure to grab the punter's attention immediately – but drawing them is a job for the specialist.**

Graphics come in several guises and a game needs several distinct types of artwork. You'll need full screen pictures for loading screens and the like. Backround graphics which make up the game screens. Incidental graphics such as logos and character sets. And sprites – the most difficult of the lot.

Sprites, in case you didn't know, are graphics that whizz around all over the place – your spaceship, ninja, mutant cabbage etc. They are usually animated – an effect which is produced by rapidly displaying a sequence of frames. Sprites are particularly difficult because they need to be seen in their proper context. It's all very well having seen the sprites static on screen, but you need to actually see them moving and animated to see how good they really are. A sprite that looks an absolute stonker when still can turn into an absolute stinker when it's animated. For this reason the programmer and artist need to work together closely on sprites – more so than with any other part of the program.

So how do you get design your graphics in the first place? One way is to draw them using an art package. This puts at your disposal all the flexibility that only a commercial program can offer. Although this is fine for title screens, however, it's not quite so straightforward for sprites. Sprites need to be drawn in a predefined space – anything bigger than the allowed area simply will not fit.

And then there's the question of what exactly to do with a screen full of sprites. To be any use, they need to be subdivided into lots of little squares to work more easily with your program. For that you need to write a grabber program to take them off the screen and put

PAYING YOUR WAY

There's no such thing as a free lunch. Anyone you commision to do work for you isn't going to do it for nothing. You'll have to pay them for their work, and quite right too.

You could pay them a set rate for the work. Agree on a one-off payment that's fair to you both. A problem with this, however, is that unless you're stacked with cash in the first place, you may find it difficult to cough up the money. After all, you won't get paid until the game is finished and has been accepted by the software house. Unless you can get the artist/musician to wait until you've actually sold the game, then it may be that you simply can't afford to pay them.

A royalty split is the other way to settle. When you eventually sell the game you agree either a royalty or a fixed amount for the game. Arrange to pay the others who've work on the game a percentage of this amount. That way you'll cover yourself too. If the game flops, then you won't find yourself out of pocket. When working out the details of a royalty split, don't forget that you will have done the vast majority of the work. The agreement you reach should reflect this.

Alternatively, it is perfectly possible that the software house will be willing to pay for the graphics and sound. In this instance, you will have to impress on them that the game will in fact look wonderful once everything's been added. You will have to do the best you can with the initial presentation to persuade the publisher that it is worth taking on in the first place.

them safely into these easily digestible chunks for your program to handle. It's a bit like a sprite routine in reverse – instead of moving data to the screen, you need to convert what's on the screen into data.

Another way of drawing sprites is to use a sprite designer. This is a program specifically tailored to drawing sprites. A large blown-up version of the sprite is displayed for working on. The utility is based solely around the creation of sprites, and often has built in animation routines and other useful drawing features. Hundreds of these programs have been written. Unfortunately none are available commercially. It's one of the first programs a programmer writes. It's usually pretty user-unfriendly, but at least tailored to the particular needs of the programmer. You may be able to get hold of one written by someone else, but in all likelihood you'll have to start from scratch and write your own. It may be worth checking out the PD libraries.

Sound as a Pound

Sonics are not generally considered to be as important as graphics. That's not to say that you can do without them, though. While a good game will still be good if silent, total lack of any sound whatsoever is disconcerting. Not hearing an earth-shattering explosion when you blast the baddies to bits, and lovely squidgy, gunky noises when you flatten aliens just isn't right.

Music really is optional. It's certainly not as important as the sound effects. However, anything that you can possibly do to improve the game and add polish should be done. You can get away without having music, perhaps, but an atmospheric soundtrack can only add to a game.

Unfortunately, getting any sound at all out of the CPC is hard work. The first thing you should know is that a special sound processing chip is used for all sonic output. This chip takes care of everything sound related, freeing the CPU to get on with the business of running the game. The chip can be programmed using OUT commands, but to get anything even vaguely decent you need a sound driver program. The problem is that lots of instructions are required for even the most rudimentry squeak.

A sound driver is a program that plays and updates sounds through the chip. It needs to be 'called' extremely frequently to work properly, a rate of around fifty times a second being the norm. It is usual to access the driver through an interrupt routine, providing the constant timing that the program needs to keep up.

Music drivers written by professionals are extremely complicated bits of coding. They have to take up as little processor time as possible, and need to store long tunes very efficiently. Memory and speed are the two things that programmers moan about the most, and begrudge giving away.

If you commission a computer musician to write a piece for your game, you will normally get a three-channel soundtrack along with all the sound effects that you require. The whole kaboodle, the driver, tune, and FX typically take less than 4K. A commendable achievement by any standards.

Designer programming

Game design covers the designing of screens and the layout of the levels. Most games have screens constructed from several smaller graphical blocks slotted together, and what's needed is some way of putting everthing in place – a program that allows you to position the platforms and lay down the levels. You will need to write you own program for this. Every game is different, and so you'll need a new designer for every one you write.

When writing your designer, remember that speed is of the essence – don't spend ages perfecting a program that will become obsolete on the completion of the project anyway.

The designing stage is probably one of the most fun parts of writing a game. Thinking up the puzzles that will fox the player can be extremely satisfying. The more cunningly you design the puzzles the more you get out of it. A word of warning, though. Don't get carried away and make the game too hard. The difficulty factor should be increased gradually, with the first couple of levels being relatively easy. There's nothing worse for killing a game dead than not being able to make it off the first screen. And unfortunately it's all too easy to do. Get someone else to play the game, and adjust the difficulty accordingly.



WHAT THE EXPERTS SAY

Paul Hiley is a professional computer musician. He writes for a variety of computers, the CPC being one of his favourites. He's done a lot of work for companies such as Activision and Enigma Variations. His portfolio includes such games as *Rockstar ate my Hamster*, *Altered Beast*, *Sooty* and the wonderful but sadly under-rated *Lost Caves*.

We found out what it's like to write music.



● Just one of the games featuring a Paul Hiley soundtrack.

What kind of music do you write? Is it a case of converting existing tunes onto the computer, or are you composing your own?

Both. A lot of the cartoons have TV tunes. *Thomas the Tank Engine*, for instance.

There are one or two others that include original music. *Soccer Challenge* for Enigma. I generated the tune for that and, of course, that unsung classic *Lost Caves*.

How long does it take you to write a piece of music for a game?

It varies quite a bit. The original tune takes maybe a day or so fiddling around till I get something that sounds right. Then any amount of time could be spent tweaking it until it sounds good.

How do you compose the tunes. Is it difficult to think of original music?

It's a lot of luck and inspiration really. I just try out a tune and maybe it sounds OK, maybe it doesn't. I maybe change it a little bit, fiddle around, give up or try another one. It's luck, really.

Once you've actually written your music driver programs, is it a case of just writing the music from then on? Or do you have to continuously update the program?

In theory it should be just a matter of adding new note data and sound effects. In practice, there's always something that needs doing. A special sound effect may need the programmer to control the pitch of the sound, perhaps. Or maybe there are memory problems – it might need to be multiload, for instance. It might need the sound FX separate, a volume control might be needed. In the end there are lots of variations.

You obviously need to be quite a good programmer to write the sound driving software. Why do you write just the music? Why not actually program the games?

Music is more of a specialised job. There seem to be few people who understand the various aspects of how to program the music in. So few people really can write the program. It's not a matter of being difficult to program, but knowing how to set up the music driver so that you can program music into it easily. It's an overlap of interests of mine. Music theory and the more technical side of music synthesis, combined with programming. It makes it more of an unusual job.

When you're commisioned to do the music for a game, what do you work from?

Usually I just get an audio tape of the music. With the TV conversions it could be just taped off the TV. Occasionally it could be a video with the game, maybe a promo video. Or a tape of the game playing in the arcades.

Are you given many restrictions when you do the music?

Hmm, this can vary a lot. Sometimes the program could be 6K, and people don't mind. Other times you have to squash a long tune and sound FX into maybe 2K.

What we really want to know is how much does it cost to get a freelance music specialist to write your tune?

It could be as little as £100 for a simple tune and a one or two FX, up to £600-700 for more complicated jobs. In the end I have to work out what's reasonable for the job.

Free for all!

Welcome to a slightly new-look *Free for All*! Yes, the former resident of this Des Res computer column (two up, two down, kitchen, catflap and even an inside WC) has moved on and CAROLINE LAMB has moved in...

You know the Public Domain is one of the most misunderstood areas of computing. And I think it's about time a few major misconceptions were cleared up.

To begin with, I've been chatting to a few Public Domain program authors recently who are pretty fed up about their programs being ripped off. Sounds a contradiction? Well it's not.

Although an author may agree to donate a program to the Public Domain, he or she still retains the copyright to it. In other words, it's still their property. So you can make as many copies as you want and pass them around freely, but you must not tamper with any copyright notices in the program or try to pass it off as something that you have written. Apart from it being a pretty mean thing to do (and pretty pointless too, because nobody's stopping you from copying it in the first place), it's illegal.

With the arrival of the new, tougher, anti-hacking and copyright legislation, someone who rips off programs might find themselves in hot water with the law.

Note that some programs, like those in WACCI's Amsdos section, have not been donated to the Public Domain and so, although freely available, you are not allowed to pass them on or include them in your own PD Library.

Similarly, if you want to upgrade or modify a program or incorporate some of its routines in a program of your own, that's fine as long as you acknowledge the original author.

The best advice is to contact the original author and ask them if they mind about what you intend to do with their program.

Summing up

All of this is neatly summed up by Dave Rand's copyright message in the documentation that comes with the file utility *Newsweep*. It reads:

"Although this program has been placed into the Public Domain, I retain all copyrights to this program, and pursuant to this, this program MAY NOT BE SOLD BY ANY PARTY unless specifically authorised by the author, Dave Rand, in writing, prior to the first copy being sold. As well, this program MAY NOT BE INCLUDED IN ANY OTHER PACKAGE FOR SALE, even if this program is indicated as being 'in the Public Domain.'

All of the above applies to both the original as well as derived, or modified copies of the original. Any modified copies of this program MUST NOT have the copyright notice violated, changed or otherwise altered.

Please report any copyright violations to the author, at one of the above telephone numbers. Thank you."

THE ROBOT PD LIBRARY

I've been sent a disc from the ROBOT PD library which is run by Richard Fairhurst. Apart from running Robot PD, Richard also seems to write most of the programs. As it turns out, this is no bad thing because young Mr Fairhurst is a pretty nifty programmer.

For example, Richard has written a program called *Organise* which is a database-type program that helps you keep track of what programs you have on your disks. I won't go into detail about it this month but suffice to say it's as good as some commercial programs I've seen that will cost you just under a tenner.

Amongst the other programs on this disk there are two totally amazing demonstration programs. One is from a group of French hack-heads collectively known as Mission Crackers and the other [illegible]

[illegible] the Amiga (Yeuckk!) then you'll be more than pleasantly surprised to see what these demos can make your CPC's screen do.

The French seem to have the flair for producing attractive and tasteful graphics. It's just a shame that nobody on this side of the channel is doing anything comparable. (And yes, I would love to be proved wrong. If you have done some PD graphics demos, send 'em in for me to have a look at.)

The one nice thing about the Robot PD Library is that it is cheap and Richard does a cassette option... Sorry... the TWO nice things about ROBOT PD are that it's cheap, they do cassette PD stuff and he's a very helpful chap to talk to on the phone... err sorry that seems to be three things. You don't have to take my word for it, simply bung Robot PD a SAE for its free catalogue and see for yourself.

GET IN TOUCH!

If you are running a Public Domain Library, write to me here at the *Amstrad Action* office and tell me all about it. If you want me to review some of your Library's programs (think of the free publicity) send them in on a 3-inch and I'll have a look. But, (and this is a biggy BUT) if you want your disk returned, do write your name and address clearly on the disk label. Tarra.

Beware...

Word has reached my shell-like that a certain (newly formed) PD library, down in Kent, is selling some CP/M programs with titles such as CSAVE.COM, PIP.COM and even C10CPM3.EMS.

Now the more knowledgabe amongst you may have already noticed that these programs are definitely not Public Domain.

Nope, you'd have to be more than three sandwiches short of a full picnic NOT to realise that these are programs that are on the two disks that are supplied with your CPC when you buy it. In fact, certain little outfit called Digital Research (DR) owns the copyright to all the CP/M files on these disks and another little unit called AMSTRAD PLC own the rights to everything else on those disks. And they're pretty hot on protecting them, make no mistake.

Unfortunately for this PD Library, both DR and Amstrad PLC have the annoying habit of sueing other outfits that infringe their copyright (last year it was rumoured that DR was going to take IBM to court over code "similarities" between CP/M and MS/DOS) for slightly more than an arm and a leg.

Don't forget that each master disk that you receive with your CPC has its own unique code number tucked away in the file code. This means if you're selling (sorry, 'pirating') copies of your CPC master disks, it can be traced directly back to you, even if you bought the machine second-hand.

I won't mention the PD Library's name (this month, anyway) but... Cummon lads, do the decent thing and get these programs OFF of your software catalogue sharpish, otherwise Digital Research and Monsieur Sucre's Amstrad PLC may mysteriously learn of your name and address.

The History of Life, the Universe and Public Domain Software...

In the beginning there was THE WORD and THE WORD was with God and the word was CP/M.

In six days, CP/M created The Business Computing World (OK, substitute "days" for years.) On the seventh day CP/M rested... While CP/M rested, a minor blue-chip devil, known to mere mortals as MS/DOS (sponsored by IBM) stole the whole of the Business World from CP/M. But that's another story...

Meanwhile, CP/M looked down upon all that it had created and was most pleased with it but thought that it needed a "little something extra." And so our Lord put CP/M to sleep, took out one one of his "Profit Motivation" ribs and gave us Public Domain Software.

But seriously

The development, by Gary Kirdall, of the CP/M Disc Operating System (DOS) in 1974 was really the start of the home-computing era.

The beauty of CP/M was that it wasn't machine-specific. It provided a standard DOS under which programs could be run. For the first time it became possible to swap software between different types of computers.

A group of computer buffs in New York, led by Tony Gold, spotted the potential of this feature and collected all the programs that they and their friends had written and wanted to share, on disk.

By the early '80s MS/DOS had arrived and (as had happened with CP/M), PD Libraries began to spring up for the IBM PC, too.

Share where?

About this time, someone had the bright idea of putting out cut-down versions of their programs and sticking a little note in with the documentation to the effect of: "If you like this program then a little dosh donation will secure you the full version and some user support."

The punter was happy because he'd had a chance to see what the program could do before he shelled out his hard-earned readies. The author was also happy because he'd actually got some tangible reward from all of those hours of night-time programming.

Making it in the UK

The concept of Public Domain software finally made the jump across the Big Pond in the early '80s but was very slow to take off in the UK.

There were a number of reasons for this but, it has to be said, the main one was the refusal of the computer press to acknowledge that the stuff even existed. Stories were circulated that Public Domain software was unreliable, machine-specific, of no use to serious users, etc.

Although it cannot be denied that there are some less than sensational programs floating about the PD network, PD programs in general are just as good as commercial ones.

Indeed, some PD programs actually started their lives as full-blown, commercial CP/M packages costing loadsa wonga. After the Big Blue Chip boys took over the business world with MS/DOS, these programs represented little financial gain to their authors. So rather than see them disappear into obscurity, the writers donated the programs to the Public Domain network. A good example of this is *JRT Pascal* which, if you'd wanted to buy it three years ago, would have cost you a couple of hundred or so washers.



● French demo mayhem from Robot PD.

Nowadays is that there are loadsa PD Libraries around that have CP/M PD stuff already configured for use on the CPC – plus a growing number of AMSDOS PD libraries.

WHAT'S UP, DOC?

When you get your first PD program(s) you'll probably notice the lack of any documentation about how to use the program. My advice at this stage is... DON'T PANIC!

There usually is documentation but it's on the disk and saved as an ASCII file. Admittedly, some programs are so straightforward to use that there either isn't any or the instructions are included in the program.

CATalogue the disk and look for any files with the file extensions .DOC(ument) or .TXT (which stands for text.) Keep a look out for other less obvious files like READ.ME or MANUAL.1. Try loading them into your word processor, or if you don't have a w/p package then you can use CP/M's built-in TYPE command to view the file.

A word of caution

Just because a program is said to run under CP/M it doesn't automatically mean that it will work on your CPC.

To begin with, there are two versions of the DOS that work on the CPC – versions 2.2 and Plus (or 3.) Obviously, if you have a 464 which (because of the smaller memory) can only run v2.2, then the world of CP/M programs will remain a closed book to you.

But there is more bad news to come. Some CP/M Plus programs will not run on a 6128 either. A good example of this is a program that has been designed to take advantage of the extra screen size on the PCW, say.

And it gets worse. Because CP/M has been around for so long, there are versions of it which work on the old 8080 processor. Since Arnold has the newer Z80 chip, programs written for use with the 8080 will not work on the CPC either.

No, that's not the end of it, either. CP/M didn't stop its development at the Plus stage. Digital Research went on to design MP/M or Concurrent CP/M, which allows systems to be networked. Programs written for this system? Yup you've guessed – no joy.

Why am I mentioning all this? Well, if you get a catalogue from one of the non-machine-specific companies, you will be impressed by the really humungous amount of CP/M programs that they have in their collection. But beware, because there is no guarantee that they will work on the CPC, even if they have been correctly installed for your set-up.

The CP/M User Group and PDSL are two such outfits, both very big and catering for all sorts of CP/M machines from the Kaypro, Wren and Osborne, right through to the Sirius AT.

The same word of caution applies when you download software from bulletin boards. Make sure that you download from the CPC software section, otherwise you might be disappointed.

PD Libraries that are CPC-specific (such as Robot PD, WACCI and the Cynotel BB) are a safer bet. The people that run them know that their programs will run on a CPC. In addition, if you get stuck with a program, you can give them a call and ask for help.

WHERE TO GO

- WACCI UK, 9 South Close, Twickenham TW2 5JE. Telephone 01 898 1090. As well as being a public domain library, WACCI is a fanzine of truly singular quality. Bung £1.50 to 9 South Close and you'll receive a smaple issue with the PD lists contained therein. But do it today, becuase the WACCI library is a CPC-specific library second to none in the UK.
- DW Software, 62 Lascelles Avenue, Withernsea, North Humberside HU19 2EB. DW is the source of the marvellous WIMP environment desktop reviewed last month, as well as an gargantuan grab bag of other quality programs. Six clams will get you a PD disk positively bulging with superior software.
- Got a cassette-based system, and feeling left out of the fun? Tough! No, no, don't shuffle away sulking. Send a blank cassette and 40 new pennies to Robot PD library, 2 Trent Road, Oakham, Rutland LE15 6HF and you'll receive a tape jammed packed with goodies. If you're one of those retiring careful types who consider the idea of sending off 40p! to an unknown address absolutely outrageous, you can send for a free catalogue by contacting the above address (at least include a stamped addressed envelope, huh?).
- The CP M User Group, 72 Mill Lane, Hawley, Dartford DA2 7RZ. The best CP M user group in the UK and they have lots and lots of quality PD. Bung them a few quid for a copy of the latest newsletter.
- TUG II 0905 775191 V21 22 22bis 23 8N1. A bulletin board with a lively CPC section and a large amount of downloadable code. The board operates for 23 hours a day (what's this guy doing for the other hour?), so you should be able to make contact.
- Scull PD Library. A new library run by Alan Scully up in sunny Glasgow. Software is available on both cassette and disk, and although the library's pretty new, there's already an impressive catalogue of wares. Two cassettes-full will set you back 50p + stamped SAE + blank cassettes. £1 + stamped SAE + blank disk will get you two sides of software. Write to Scull PD Library, 119 Laurel Drive, Greenhills, E Kilbride, Glasgow G75 9JG.
- The Public Domain Software Library, Winscombe House, Beacon Road, Crowborough, Sussex TN6 1UL. Tel: 0892 663298. Send SAE for free C PM catalogue.

Action Test

Have we got three instant classics in one issue? Maybe...

"Lie, cheat, steal, kill!"

Play Bloodwych, the game that brings out the good points in people on page 46.



"REFEREE!"

Can Birmingham's All-Star 11 catch the defence napping in Italy 1990. on page 60?



Also reviewed



● 1, 2, 3, 4, *Astro Marine Corps!* Sign up on page 48. But is it worth the haircuts?



● Hang tough with the new kids on the Grid Iron block. *Cyberball* kicks off turn to page 44 and watch those sparks fly!



● "Plays like *Tetris* on acid!" – TW. Demonically addictive tile-juggling action from Domark. Once you start, will you ever be able to stop?



● Is it a bird, is it a plane, no it's *Impossamole*. Monty Mole, Gremlin's earthmoving adventurer, returns on page 62. Tune in for more caped crusades now!

CYBERBALL

Domark ● £9.99 cass, £14.99 disk joystick/keys



It's fourth down, fourth and inches. The situation's getting critical, real critical. Like, if you don't complete the next pass the ball will explode destroying half your squad sort of critical. Can it be done? Have the Assassins got the know-how, the nerve and sheer guts to make that play?

That's the excitement of *Cyberball*, sport of the 21st century. A game where action's the attraction, skill the thrill and head-cracking tackles an everyday occurrence.

SECOND OPINION

"The trouble with Cyberball is the complication factor. If you're not into American Football then you're stuck. The jargon's confusing and the playbook just looks like a mass of arrows and lines. A good game if you can work out what you're doing!" RL

GREEN SCREEN
Trouble free.

Long ago, after the steroids controversy, athletes found a neat way to cheat. If something broke – be it knee, arm or neck – gridiron players had it replaced with bionic bits and bobs. Naturally this gave them better than average performance – and an unlimited mileage guarantee – so football dissolved into violent chaos. Players were literally getting killed out there, which didn't do much for career prospects or wage demands. So rather than mix man and machine, the *Cyberball* league was founded, a completely robotic sport where face-mask vilolations ended with players in the workshop and not the morgue.



Based loosely on the old American footie rules (although there are now six quarters!) the game's controlled completely from the sidelines. Pitchside players can pick the plays, time the passes and take the rap for missed assignments. Now with *Cyberball* you too can take command of ateam, and guide it from practice to the big league.

You control seven mean machines on offence, seven more for defence. Each has been designed to do a specific job. Some speed along on wheels as receivers, other tracked hulks play as tacklers and love grinding the defensive ends into the turf. Running backs have speed and durability, while defensive backs are fast, ferocious tacklers. You must use their abilities to drive up field and score a touchdown – the only thing that will stop the 350 lb steel bomb, affectionately known as the ball, exploding. It runs from cool to critical, and to make it safe you must first cross the half-way line, then the other guys' goal line. Take too much time and things may well go up in your receiver's face as he sprints for glory.



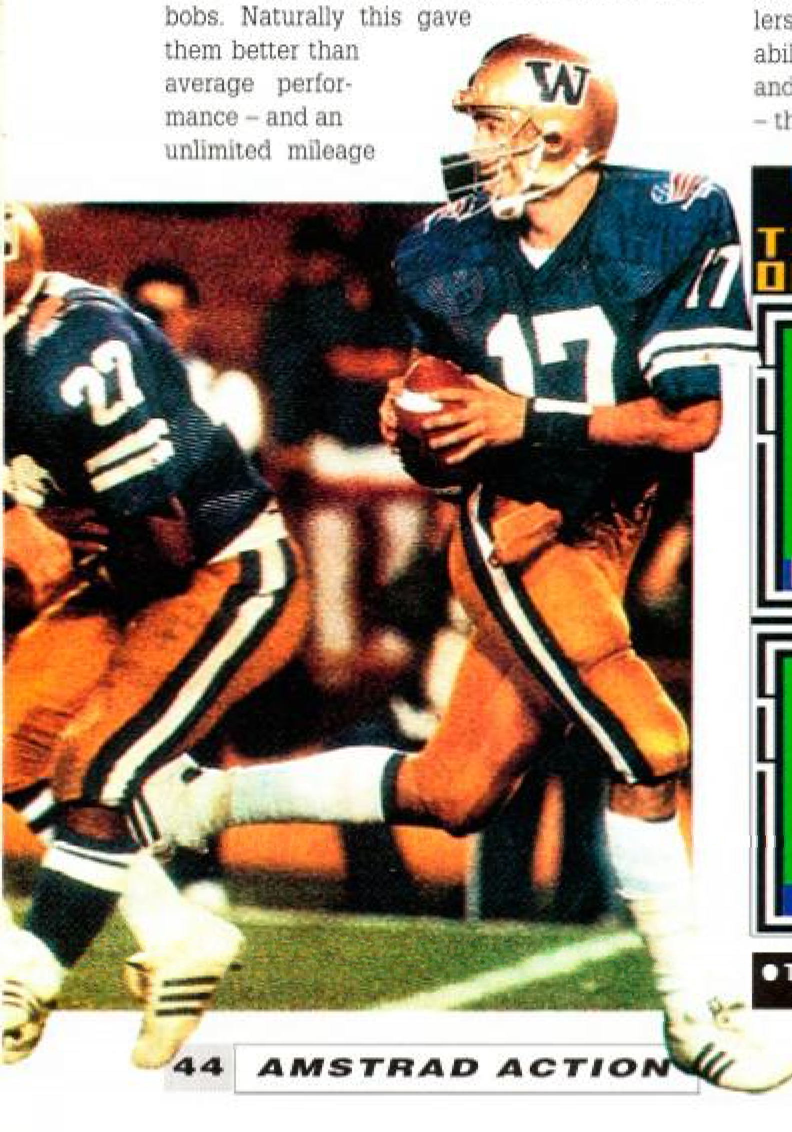
● The clock's running down, so go for it!



● An incomplete pass costs time and yardage.

Explosions and heavy hits naturally weaken even the best steel-suited war wagons, so dosh is doled out for good plays allowing you to rebuild – literally rather than spiritually – your team at the end of a match. And they'll need it. "Damaged 'bots drop balls", the 'gipper' used to say, and he was right.

At first sight, the list of plays seems daunting even to a hardened gridiron fan. Arrows and lines appear over a representation of your team, each indicating the route they will try to take. This of course depends on whether you decided to run the ball – as in rugby – or throw a pass as in American Football. Squares mark the spots receivers need to reach to complete a pass, while the backs run bootlegs and screens to ensure success. Throw in the defence, and an organised street fight is the result. Plays have to be adjusted on the spot if defenders break through, to try to sack the quarterback, or stop the runner in





● The four short defensive plays offer the safety of zones or the risk of a blitz. But will they run or pass?



● The line of scrimmage is not a safe place to be. But it's here that games are won and lost.

his caterpillar tracks.

Good play calling is essential if your team's to succeed. An airborne assault, throwing pass after pass, is a high-risk strategy that eats up the yards, leaving the clock virtually untouched. Running the ball is safer, but more time-



consuming. Sometimes, though, if a lot of yardage is needed, there's no other choice than a Hail Mary bomb to the other end of the pitch.

On defence, life's even more fraught. Combined with the choice of playing three different styles (long, medium or short) you have four basic set-ups. Choose the defender that's to be under your personal control, assign the rest of the robo-thugs a job, and get to it. You have to guess – after you've selected your play! – what the other team's going to do. Then track and trash their key man, no easy task as tons of of titanium titans collide.

For such a complex game, covering fourteen on-screen players, *Cyberball* can be forgiven for being slightly less than stunning to view. The players and their movements are, though, as clear as they need to be. The overhead view does detract from the immediate violence of the whole spectacle, but that's not vital to the game – there is, after all, the pleasing crunch of metal on metal every time a tackle's made. This is a war, where the strategies have been laid out in advance. The troops and their positions are the important thing, not watching the bullets fly. The excitement comes from outwitting the other team and steaming past to score, or sacking their QB real hard.

Cyberball is the best American football game to date, even though it isn't strictly based on it. There may only be six teams but with hundreds of plays to try, *Cyberball's* assured a long, if bruising life. The new rules are sometimes a bit strange, especially those surrounding safeties and conversions, but then again robots probably don't understand cricket! Used properly, even these quirks can be turned to your advantage and help make you *Cyberball* champions. Eventually! TW



● Choose a play then try to complete that pass.



● The blues sneak a touchdown.

FIRST DAY TARGET SCORE

Win a game!

JARGON BARGAIN

American football is full of weird and wonderful buzzwords. *AA* takes a 'time-out' to explain some of them:

Unload – tackling (or 'hitting') another player as a hard as possible.

On the numbers – a well thrown pass that hits the receiver high on the chest, where his team numbers are!

Popped – Hitting an opponent with brutal force eg 'This man really got popped'.

Facemasked – a foul where one player grabs another by the facemask in a thinly disguised attempt to pull their head off!

Time out – Where the game stops for 30 seconds so teams can organise plays, who hits who and when etc.

Bootleg – a disguised running play.

Flea flicker – a highly complicated, highly risky multiple pass move.

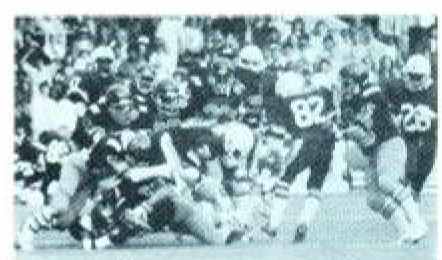
Nailed – being hit particularly hard by another player.

Sacked – where the Quaterback's hit particularly hard by another player (*uhhh, there's a lot of this hitting business going on here... ed*).

Unsportsmanlike conduct – hitting another player particularly hard before the play starts.

Late hit – hitting another player particularly hard after the play is over.

LT – Lawrence Taylor, *AA*'s fave footballer. Plays for the New York Giants in shirt number 56 as a line backer and hits everybody particularly hard! (*I think we get the idea! – ed.*)



The Verdict

GRAPHICS 66%
- Small sprites are sometimes hard to spot.
- A good overall view.

SONICS 71%
- Good futuristic theme.
- Lovely metal-hits-metal sounds.

GRAB FACTOR 33%
- Exceptionally complex tactics.
- Just what is going on?

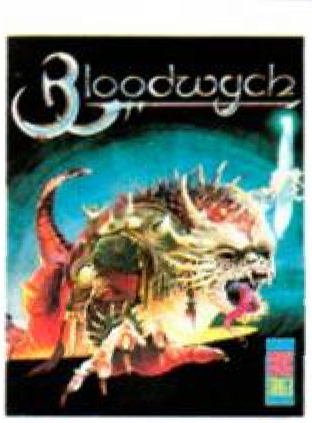
STAYING POWER ... 91%
- Hugely varied.
- So many plays!

AA RATING 82%

A futuristic sports sim that's right on the numbers.

BLOODWYCH

Image Works ● £9.99 cass, £14.99 disk joystick/keys



One minute you're in this bar enjoying a sociable glass of mead (*and we all know how sociable you are! – ed*), and the next you're wandering through this creep-filled castle trying to save the world!

It's a funny 'old game, this *Bloodwych*. It all started quite innocently when 16 of the hardest, most cunning, highly-powered peeps in the kingdom were all gathered at the Inn carousing, quaffing ale, and telling tall stories about their feats of daring-do!

When someone suggested a quick romp around the dread castle Zendrick, you know, just for a laugh, it seemed like a darned good idea – at the time! Little did the eight foolhardy warriors who actually volunteered realise, their leaders had been possessed by the Bloodwych, legendary white mages of



● A rather terminal little message.

Trazere, and they were about to lead them on the most dangerous adventure ever. Zendrick, a Darth Vader figure who deserted the Bloodwych to specialise in spreading general nastiness, was summoning a lord of Entropy. And when these lords of Chaos come to town, they trash the place, totally. They destroy all life – men, women, children, dogs, cats, mad cows, even estate agents. There's one chance, a long shot, but it might just work. Pop up into the fortress and put Zendrick on the chopping list!

If the team(s) can get into the fortress and nick the four Crystals of Holding, they may avert armageddon. And, as well as dying in a horribly painful fashion, these heroes stand a chance of becoming inconceivably rich and pretty darned famous into the bargain. A proposal that's known in the adventuring trade, as an offer you can't refuse. Be murdered by a rampaging demon or suffer eternal wealth!

As party leader you first select the four (fool)hardy freebooters to sally forth. You can give their abilities, kit and magic skills the once over and then it's off to the castle. The game actually begins with the squad having



● Open the door to adventure, mystery and danger.

gained access to the fort. Select the marching order, and then take the merry bunch around the place killing/bargaining/begging with the things/people you meet. There are doors to be unlocked, secret panels to find, treasure and weapons to collect. The kind of the things you'd be miffed if you didn't find in a dungeon are all there.

The party view of the world is straight ahead into a 3D corridor. They can charge forward, turn, sidestep and most importantly run like a mad thing. Gates do what they do best and bar the way until you find the right key, while your team strolls around hacking, slaying and kipping. Stairs can be found – eventually – to each of the four towers in which the jewels are stashed; then and only then can you go on a Zendrick hunt.

Now there are Heroes of the Lance galore, and Bards eager to tell Tales. But they have all been frustrated by the lack of real power they had over their parties. The *Bloodwych* boys have no such problem. Using an icon system, all the info you need is either on display or just a button-click away.

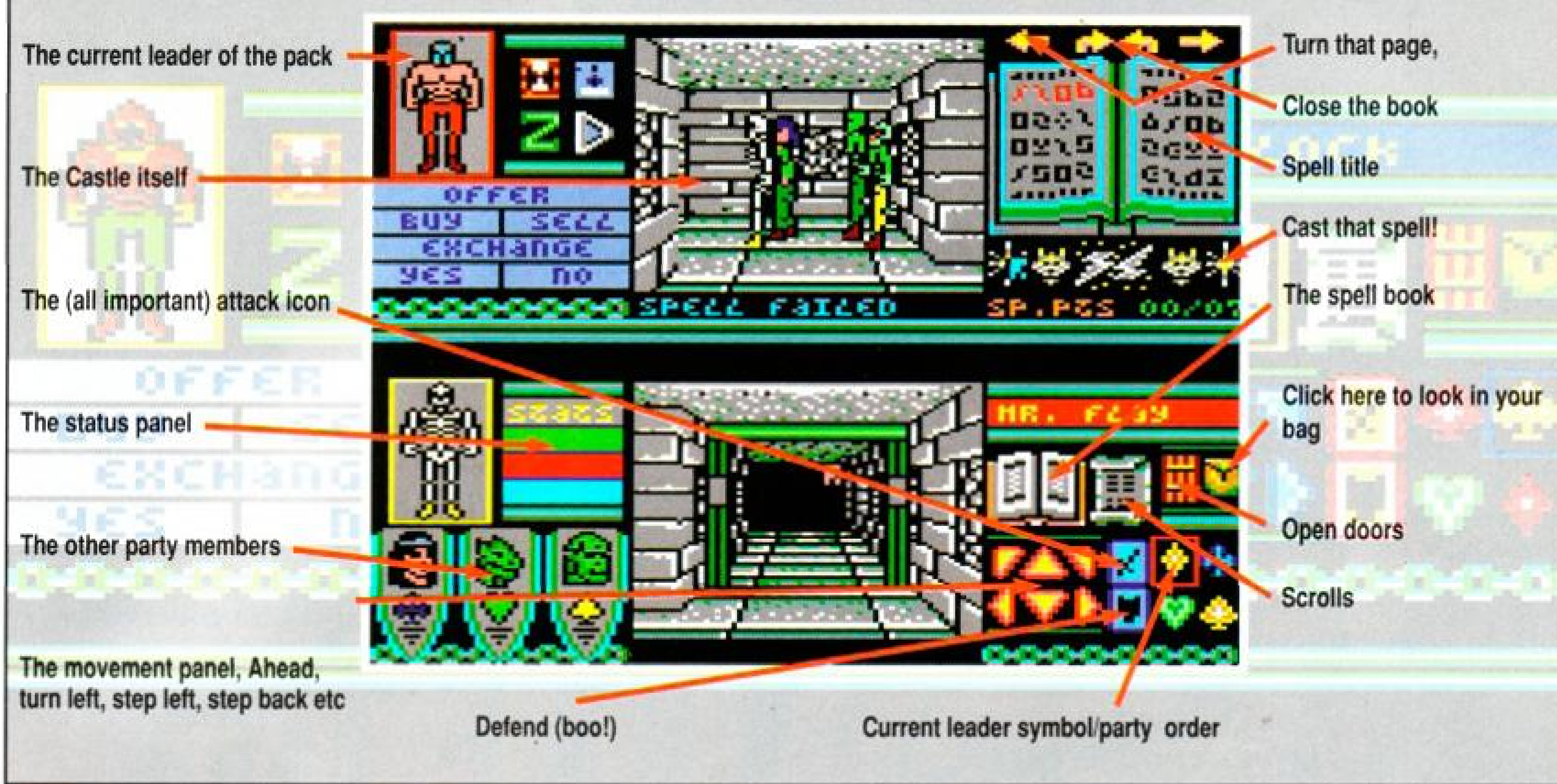
From the most important functions, like preparing a spell for battle, or arranging party marching order, to those little trivial things like food and water, all are controlled with the small arrow icon. It's intially off-putting, but after a few minutes of wandering you soon get the hang of it. Well, there's very little choice, after all – it's either learn of die.

Each character has a set of the usual stats (hit points, strength, charisma etc) and a whole load of kit to play with. You can say what each



● Choosing a party couldn't be easier; just click on their shields then look up their stats.

ICON DO THAT!



bod has in their hand and what items are tucked away safely in their back-pack. Everybody gets spells to use (but magicians get a better chance of completing their wizardry) and for this it's just a case of browsing through the spell book looking for the appropriate runes. Weapons vary, as do the armour ratings, and better kit can be blagged en route.

With two players, *Bloodwych* really comes into it's own. Each player has total independence and can wander where they want. If you happen to come across the other group they appear on screen. It's up to you to either help or fight them – it really depends how healthy and how much useful stuff they've got! With this two-player element and great dungeon graphics, *Bloodwych* is off to a stormer. At last there's an adventure you can see, touch and fight in with out having to spend hours flicking through text screens.

Bloodwych could never be called exciting, although life can get fraught. It's the mental exercise that's the fun. If you are to solve the mystery of *Bloodwych* then every square inch of the fortress will have to be searched. *Bloodwych* is a fiendishly complex puzzle, but simple to play once you force yourself to study the instructions. Remember, the fate of the world hangs on the one little arrow hovering on the screen...! TW



● Your party meet the opposition, who've just met a monster. Will you help them, attack them or sit and watch?

SECOND OPINION

"I saw Dungeon Master on the ST and longed for a CPC version. Now it's here – and sure to become a classic." AW

GREEN SCREEN
Limits long-range vision.

FIRST DAY TARGET SCORE

Not applicable

The Verdict

GRAPHICS 84%
- Split-screen excellence.
- Clear, solid and strong.

SONICS 00%
- Nowt to report unless we've gone deaf!

GRAB FACTOR 55%
- ■ Intimidating icons intially.
- ■ Getting lost is easy.

STAYING POWER ...92%
- One huge castle to roam.
- Save Game feature make life easier.

AA RATING 92%

- At last, a role-play game that works!

ACTION TEST

AMC

Dinamic ● £9.99 cass, £14.99 disk joystick/keys



● Just some of the lovely wildlife you get to see (and kill) in the AMC.

The Deathbringers are coming to town. Normally, this means the rape, pillage and murder of countless innocent human colonists. Not this time, though, because the settlers have called in the *AMC* (Astro Marine Corps)!

The Deathbringers are a scabby band of all that's evil in the galaxy, outcasts that have banded together in an attempt to conquer civilisation. The only feasible plan is for a single stormtrooper to seek out and destroy their home base...



You yomp across the Deathbringers' world destroying, as ever, everything in your path as you find the entrance to the enemy base. That's the mission and it means eight sections of horizontally-scrolling destruction. And of course, the *AMC* give their boys the biggest, baddest guns available – including a gun that can fire flame and three-way shots when the going gets really tough.

The marine's dropped on the planet at the beginning of the battle, while above his head hovers a drone ship to drop those power-ups that are so much fun. Storming in from the right come hordes of insect-men, but they don't last long even in single-shot mode. Winging down from the heavens, just a few bug bodies later, drops a pod. Blast it to reveal the prize awarded by the drone ship for being such a death-crazed lunatic. Care is essential, mind, as the Deathbringers often do the dirty and replace the goodie with a nasty surprise, such as a bomb or a man eating plant!

AA RAVE! RAVE!

The running about and blasting continues over hill and under dale as legions of insectoid life-forms charge your way. And although the guys you fight aren't that hard, the ones that hide in the scenery are. Pretty early into the battle there's a man-eating plant to marvel at – from the inside, first time round! And later there are pit monsters and large blue dragons that attack from off-screen!

AMC's a two-load game, so if you get past the half-way point you get a password for the rest. The second half gets really sticky, with more vicious beasties of ever-increasing size launching themselves at you. Meantime, you get more meaty weapons – a flame thrower being the bestest – to play with. As the game draws to a close you enter the base and teleport about, blasting a path to that big showdown with king of the deathbringers. Basically a dinosaur in a tin suit, he's a real killer, and likes nothing more than a couple of space marines to chomp!



It's not the concept that makes the game special, it's the techniques. For starters, the parallax scrolling is superb. But it's the monsters that are the real heroes. From the huge Mega beast at the end, to the run-of-the-mill giants that plague the second section, they all move far too fast for their own good – i.e. you have to kill them real quick before they get you!

AMC's full to overflowing with smart things to blast. Yellow jellies pulse along, man-eating shrubs burst up from nowhere and green slimes ooze along ready to leap up and dissolve careless gun-toting loons.

With nine hits before you die and five lives, it looks as if Dinamic has finally got the difficulty level right. *AMC* is easy enough for the beginner to start while being hard enough to test the best at the finish. Sign up today – the Corps may not pay well but they've a great line in job satisfaction! **TW**

SECOND OPINION

"As with all Dinamic games, AMC is good-looking, colourful, fast and mega-violent. Great stuff." AW

GREEN SCREEN

Occasional invisibility can be fatal.

FIRST DAY TARGET SCORE

Reach Level Four

The Verdict

GRAPHICS **88%**
- Long and varied levels.
- Pretty huge monsters to meet, greet and kill!

SONICS **77%**
- Thundering explosions.
- Continual theme music.

GRAB FACTOR **82%**
- At last – a Dinamic game you can start!

STAYING POWER ... **74%**
- A real toughie.
- Eight hard-fought levels.

AA RATING 83%
- Fun means firepower with the AMC.



● The king of the Deathbringers – get here and you're almost home. Kill him and the nightmare's over.



COMING SOON...
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KLAX

Domark ● £9.99 cass, £14.99 disk joystick/keys

Klax is a state of mind, not a just game. Three blocks of the same colour in a line constitute a *Klax*. A vertical, horizontal or even diagonal line is fine – and as long as they are all the same colour you're on to a winner. It's getting a *Klax* that's the problem.



A table stretches out before you. At the near end is small paddle that can catch, and hold, up to five tiles at a time. A stab of the fire button sends the top tile falling into the drop zone. It's here that *Klax's* are made. So what you drop where requires thought, planning and good old natural talent!

Down the table roll different coloured tiles, end over end, giving you oodles of time to decide where each one should – if things work out – fall for max *Klax* potential. No problem when they roll on one by one, but on later levels they hurtle down in packs. Then, it's time to play on instinct and not intelligence.



As the levels progress the number of different colours increases, as does their speed. There are also certain tasks to complete before you clear each screen or 'warp'. It could be creating ten *Klax's* or scoring 10,000 points. Others tasks are about as welcome as a hole in the head. 13 diagonals? Come on Domark, be serious!

Each different style of *Klax* carries a different points value. Three in a stack is simplicity itself and scores virtually no points. A horizontal line helps any score sheet gain respectability, while a diagonal is pointsville personified. Cocky *Klaxxers* can go for even bigger scores by working for the infamous 'Big X' or *Klax's* that lead to each other. As a *Klax* is scored the tiles disappear and the ones above fall into their place, hopefully creating yet more lines.

This dry mechanical stuff doesn't sum up



● A big white X, serious points for a serious Klax.

the full frantic fun of *Klax*. It's pure panic, poured onto disk. At the outset you choose the starting level, but, this has little bearing on the length of the game. If you choose the easier levels you get fewer tile colours and fewer drops (when you fail to catch it on the bat), higher levels have more hues to juggle, more drops, but vastly harder targets.

Level Six, for example, demands 10 *Klax's*, which should be a piece of cake for any experienced player, surely? No chance! A few tiles in, the urge to be flash overides common sense and you find a five-tile diagonal appearing (this scores mega points and counts as three *Klax's*). Then it's sweaty palms time as billions of colours roll on – except the one you want of course! Worse still, you've got to find somewhere else to stack the others! It's a huge mental juggling challenge, trying to organise the tiles into some semblance of order. In desperation, you can hurl the tiles back up the table. This averts the crisis for three or four seconds, and as an ex-PM used to say "four seconds is a long time in *Klax*" – well he may never have said that, exactly, but it's the same idea.

AA RAVE! ☆ AA RAVE! ☆ AA RAVE! ☆ AA RAVE! ☆ RAVE!

Klax is simple in concept and design – simple, not basic – looks good, drawn in big bold colours. Initially the view creates some confusion, but experience easily erodes this. Unfortunately, though, the game's unplayable in green. Based on colour it's unfeasible to even try and make to work in mono.

Domark has tried to get the most out your CPC, however, with slightly different 64K and 128k code. On 6128s the backgrounds change with the levels, on the 464 they stay the same. It makes no difference to the game itself, but is still a pleasant surprise.

Klax has the opportunity to take the mantle of *the* CPC shape game. *Tetris*, the only other game in the same league, was bodged on the CPC, leaving the field clear for Domark's lateral thinking masterpiece.

The magic of the game, is that it warps minds! You have to watch the tiles roll towards you and decide where they'll go, juggle the pieces on the paddle, try to catch those falling tiles, all while dropping the ones you've already got to score *Klax's*.



● Wave Four – 270 points down scored, 9730 to go!



● Five tiles and the paddle's full, drop them now!

Terminal mindbending is the outcome, as is complete and total addiction. If you ever manage to score a *Klax* your life will never be the same again, the game quickly becomes an obsession.

It's you against the computer and you don't really stand a chance – but you've *still* got to give it one more go! **TW**

SECOND OPINION

"The gameplay and even the display looks shallow and fussy at first. It just goes to show you should never judge by appearances – it is truly excellent game." **RL**

GREEN SCREEN

Unplayable, alas.

FIRST DAY TARGET SCORE

200,000 points

The Verdict

GRAPHICS 77%

- ☐ Simply excellent.
- ■ Impossible in green!

SONICS 45%

- ☐ Just 'thud' effects for falling tiles.
- ■ Wildly annoying music.

GRAB FACTOR 91%

- ☐ Warning: you *will* get hooked!
- ☐ Simply irresistible.

STAYING POWER ... 90%

- ☐ Playing for hi-scores is fun...
- ☐ ...and it lasts forever!

AA RATING 89%

- ☐ Awesome, really rather awesome!



● Another diagonal bites the dust!

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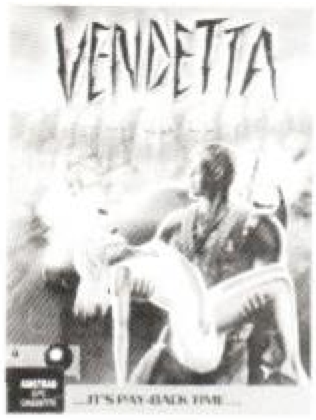
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ACTION TEST

VENDETTA

System 3 ● £9.99 cass, £14.99 disk joystick/keys



Vendetta: A private feud between two families. They started it, you'll finish it. The terrorists with whom you first crossed swords in Saigon have just made the biggest mistake of their miserable lives. Now they're going to die! Horribly and painfully!

Your family were once the dream team of the defence department. You were their superstar squad leader who always got results in that nightmare that was 'Nam. Your brother was the leader of scientific weapons research. Then, after a clash with some stuffed-shirt top brass, you were busted down to the rank of civillian. Only your Bro' and his daughter kept the faith, and with their help you pulled through. But the very same forces you fought in the jungle have returned to haunt you in the city. They've kidnapped your brother and niece in a bid to steal military secrets.

The police think you did it, the army think you did it. Only you know that THEY did it. Now it's a question of proof! *Vendetta* takes you on the vengeance trail, trying to piece together the clues and rescue your loved ones.

The world of *Vendetta* is a 3D land where you can walk around objects, pick them up and use them. The heroic ex-Green Beret can search and punch anything he finds, but there's no hanging about, there's a real strict time limit. The first building he arrives at is the warehouse. This must be ransacked to provide the necessary answers. There are computers that need disks, crates that need crowbars and many other items, useless when nabbed but essential later on.

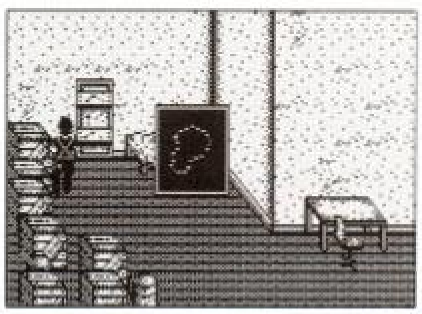
As well as the whereabouts of your kith and kin, you also desperately need to find the car keys. Finding the motor (yet another Ferrari F40!) is no problem, but opening and starting it prove a much tougher proposition. Success is vital, as the only way to progress from level to level is via a driving sub-game. In this excellent twist it isn't dying that's on your mind but time. If you dawdle here it cuts into the time for next level.



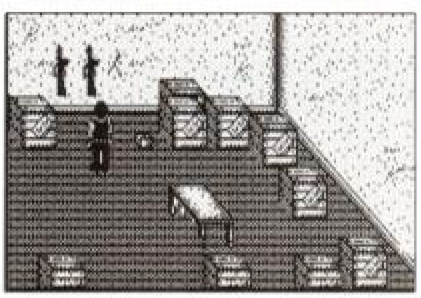
● He's going for the car!

The trail continues as the Vendetta is fulfilled. Location leads to location and the clues fit together, building into incontrovertable evidence proving your innocence. Each section is punctuated by another driving section for variety.

Of course, the terrorists aren't kindly disposed to your snooping about and planning rescues. So they try to stop you with a subtle blend of outright aggression and extreme violence. All you've got to fight with at the beginning is your bare hands and a boy scout knife. Not an impressive arsenal for a highly trained psycho killer! So the first essential is a gun. There are plenty lying around the place, but you need an authorisation pass and some bullets before it's time for some rootin' tootin' shootin'.



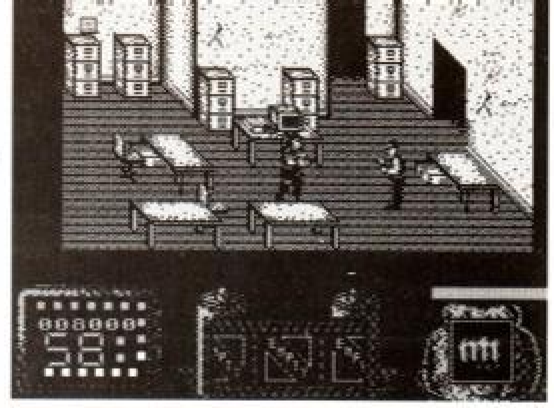
● Your niece's necklace! She was here!



● If you want to get ahead, get a gun.

With too much to do and not enough time to even think about how to do it, *Vendetta* walks a tightrope of tension and frustration. If you make it through a section with seconds to spare, then you breath a sigh of relief, die at the hands of a thug and and curses fill the air.

The graphics are simply, plainly and basically Speccy monotones. This can cause problems when it comes to finding things, but the eye soon becomes adjusted. It's also disconcerting when you find that certain paths are blocked by invisible walls – just try walking around the car! These problems don't actually hamper you, as the essence of *Vendetta* is learning where items are and the correct, i.e. quickest, way to bag them all. So the wandering is rendered redundant after a few sorties on each level.



● Hmmm a video recorder, now what use is that?

It has the mind-melting level of frustration that make these games such a challenge and as such is the best example yet of the *Last Ninja II* genre of 3D hide and seek. A specialised taste, it will take many gamers by storm. But it will only catch on if you can devote hour after hour to retracing your steps, trying to get the combination of item collection right. If you let it get under your skin the *Vendetta* could well end up being between you and your CPC! **TW**

FIRST DAY TARGET SCORE

Finish Level One

The Verdict

GRAPHICS 61%
- ☐ Very detailed.
- ■ Very monochrome.

SONICS 66%
- ☐ Reasonable music and effects.

GRAB FACTOR 63%
- ■ Highly irritating for the first timer.

STAYING POWER ... 92%
- ☐ There's one real solution...
- ☐ ...can you find it?

AA RATING 73%
- ☐ Monochrome pics with very colourful gameplay.

SECOND OPINION

"A bit of a plod if you're not into isometric 3D puzzlers, but a polished example of the genre." RL

GREEN SCREEN

It's all monochrome so no bother!

SPECIAL FORCES: A POTTED HISTORY

Operative since 1941, the "who dares wins" brigade contains the most feared soldiers. It was founded by David Stirling during the desert campaign of WWII. The leadership was taken by RB 'Paddy' Mayne 1943. Being ultra brave, 'Paddy' had a habit of playing billiards before (and sometimes during) a battle!

Combat survival is a vital part of SAS training and on one exercise they are left for four days in the jungle. All they have for food is one bar of chocolate and a packet of biscuits – and they're not even Hob Nobs!

All the information for this piece was thoroughly researched and investigated with the help of Ollie's Big Boys Book of the SAS'...



DEFENDERS OF THE EARTH

Enigma Variations ● £9.99 cass, £14.99 disk ● joystick/keys

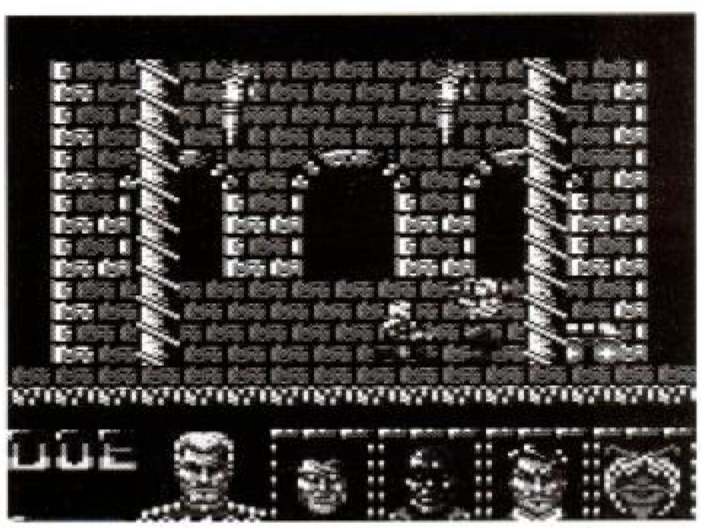


It's what Saturday mornings were made for – mindless TV shows and brill cartoons. There was a golden time when, in a sleep-filled stupor, it was possible to flick quite freely between *Real Ghostbusters* and *Defenders of the Earth*. Now Ghostbusting is OK, but, it ain't got that hip and groovy tune at the front end like *Defenders*. "Oh Four become Eight defending the Earth" (*stop singing, and stop singing now! – ed*).

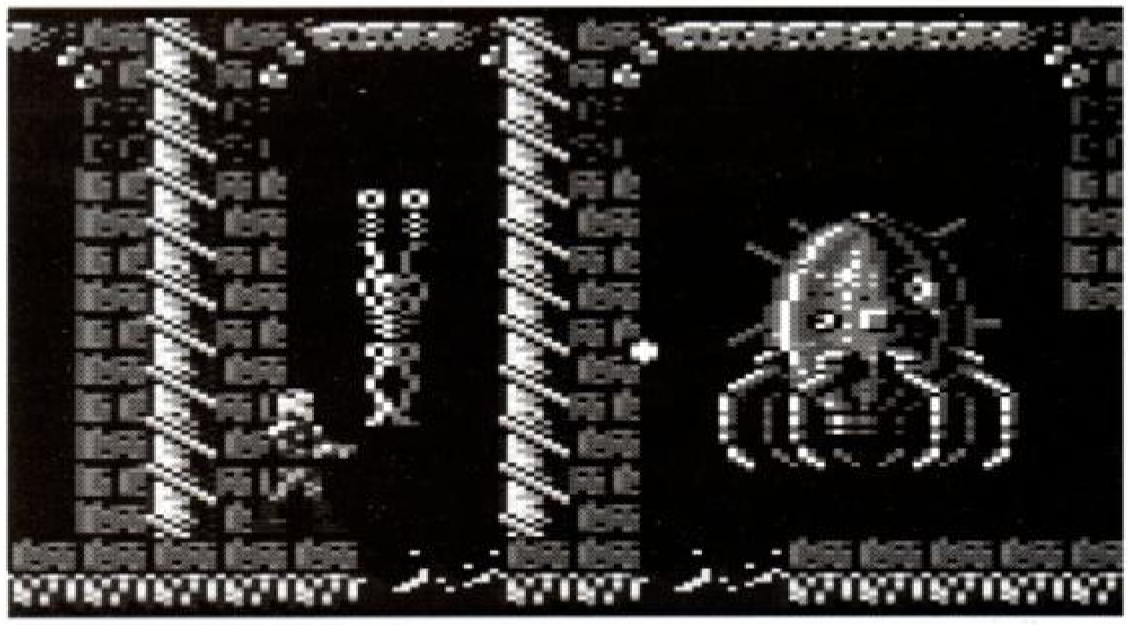
This 'kicking' tune is also the way games-players are welcomed to the world of Flash, Lothar, Mandrake and Phantom on the CPC. Ming leers over the title screen, with that all-powerful, merciless, very green look he does so well. Jedda and the rest of the 'L' plate defenders aren't to be seen, but Zuffy – the cutesy thing they always throw into these shows – makes the occasional appearance.

The state of play is this: the aforementioned young whippersnappers have been kidnapped by Ming and his Ice Robots. The DOE 'posse' have to try and get them out before Ming thinks up a really nasty fate for them involving power tools and blamanche.

The Defender chosen to bear the brunt of the mission is Flash 'Saviour of the Universe' Gordon. Armed with a blaster and three protective shields, he has to run through the palace, avoiding or trashing as many robots as possible, trying to find the kids. The main opposition comes from small leaping box droids, zombies with bazookas, and flying dustbin lids. They all take a lot of killing, so Flash '14 hours to save the Earth' Gordon has to be super sharp on the shooting score.



● Five defenders, one Earth and squillions of baddies.



● Octon gets mean at the end of Level One. Jump, shoot and move!

More Ming problems become apparent if Flash 'same red suit for 40 years!' Gordon hangs around in one room too long. Then, the intruder alarms sound and the little energy he's got left drains away.

The playing arena is composed of flick screens – which means you get some exceedingly nasty surprises – and doorways. For most of the portals you just send FG in and press the stick to spirit him to the next room. Some, though, are locked and this is where the other Defenders chip in. As soon as Flash 'convincing rocketships' Gordon finds one of these he has to summon help.

Pressing '1' alerts Dinac-X (the Defenders' super computer), who sends the best-suited defender to the aid of the DOE's (*Department of the Environment? – ed*) beleaguered leader. Then he hangs around, killing all the time, while they open the door.

There are bits and bobs to pick on the road, important of which are the energy shields, which act as life counters. Flash 'best swimmer on three planets' Gordon takes heavy damage from the word go. Even with three lives and a bar full of energy, he's still lucky to live for more than a couple of mins! There are simply to many foes, too often.

When Enigma Variations announced that it had nabbed the DOE licence, there was a great deal of scepticism. *Gilbert* hardly showed promise, being a Speccy port and all. And this makes the graphics and speed of *DOE* seem all the more shockingly good. The sprites aren't the most original, but there's an awful lot of them. Then throw in huge end-of-level guardians (remember Ming's chief computer Octon? Finish Level One and you will!) and you've got a tremendously packed game, graphically speaking.

Unfortunately *DOE* is a shoot-out only for the hardened few. Its level of difficulty is pitched way too high, with too many enemies attacking far too soon, and then having the nerve of being too darned hard to kill! The flick-screen system only makes life even more difficult. Countless times Flash 'Ahhhhahh' Gordon walks from one room to another, only to fall over a droid who immediately drains half his energy! As you can imagine, it all makes for some very intense gaming.

DOE hangs together well, but could use an easier intro. With this many enemies it might be better turning to the real DOE to help. The robots wouldn't have a hope against red tape, waffle and acid rain, but with a blaster the Defenders have to be red hot to stand even a slight chance. **TW**

SECOND OPINION

"Looks good and moves slickly, but it's just too damned hard!" **AW**

GREEN SCREEN

Awkward in places (or even palaces!)

FIRST DAY TARGET SCORE

Complete Level One

The Verdict

GRAPHICS **77%**

□ Fast flick-screens.
■ Run-of-the-mill enemies.

SONICS **88%**

□ Brilliant theme music.

GRAB FACTOR **44%**

■ Very tough from the start.

STAYING POWER ... **33%**

■ Even tougher later on!

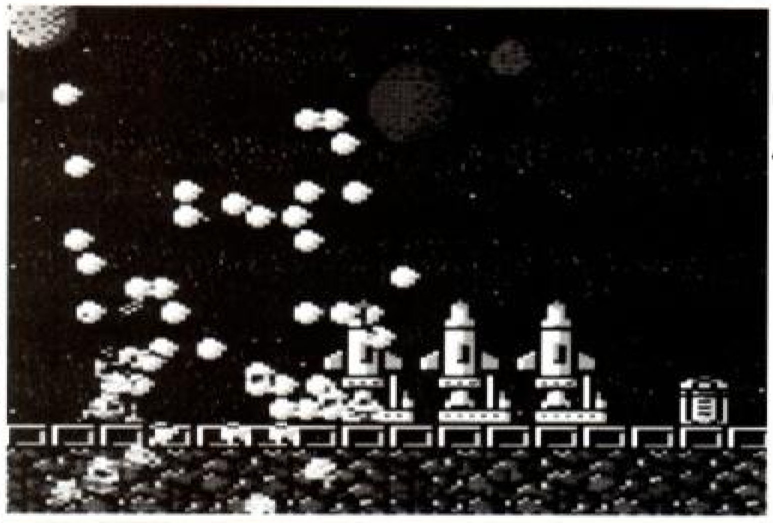
AA RATING **61%**

□ Great licence, but overly difficult.

CECCO COLLECTION

Hewson ● £12.99 cass, £17.99 disk joystick/keys

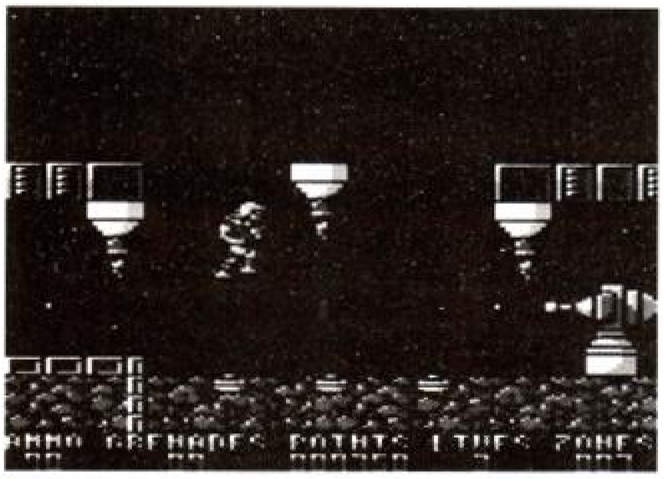
It's rare that critical and public acclaim go hand in hand – unless your names Raff Cecco and your games are invariably brilliant. Hewson has noticed this too, so now it's bought four of his greatest games together in one compilation. A megablast of epic proportions, called the *Cecco Collection*.



● Typically excellent Cecco graphics.

Exolon: Vitorc the Mean has to go stomp an alien infested planet. With grenades and blasting galore, *Exolon* is a romp across platform after platform of traps and nasties. It looks a teensy bit old now, but the game's a great example of a classic genre.

Cybernoid: Arcade adventure meets the shoot-em-up in space. A tiny red fighter ship has to see off hordes of pirates in a fight to the finish. Timing and trigger speed are essential. It's tough, addictive stuff.



● *Exolon* – one of four mastergames in one compilation.

Cybernoid II: More of the same, only even more fiendish trick flying is required to beat the pirates a second time. A flick screen shoot-out is a bit of a rarity, and with such stiff competition as this, you can see why.

Stormlord: Arcade adventure in the land of the fairies. Beautiful graphics and incredibly tough gameplay made took this one out of the realms of fairy tales and into legend.

So – four mastergames in one box. What more can a reviewer say? Each game exhibits state-of-the-art graphics for its day. Though *Exolon* may look tame now, if you compare it to the best of the modern stuff, it's still able to hold its head up high. Cecco has become something of an *AA* hero over the last few years, if you give the Collection a shot he may become yours too! **TW**

The Verdict

Exolon	AA24	93%
Cybernoid	AA32	91%
Cybernoid II	AA39	90%
Stormlord	AA46	92%

AA RATING 91%

☐ Simply stunning.

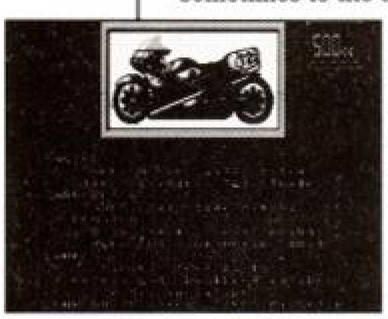
THE CYCLES

colade ● £9.99 cass, £14.99 disk
tick/keys



Cycles – real bikes, not the pedal kind – are the subject of Accolade's latest sporting epic. Racing bikes, to be more precise. Either small 125cc steeds or 500cc monsters, you can have a blast on both.

The aim is to win Grands Prix, as many as possible, hopefully building up points for the World Championship. The circuits are world-famous venues where man and machine have duelled – sometimes to the death – for racing glory.



● Bone up on your bike's specs.

Bikes are romantic, with a mystique derived from speed, and to be effective, *The Cycles* needed to capture that sense of devil-may-care lunacy. The charge into a hairpin at a terminal speed, the arm-stretching acceleration of the straights, are central to its success.

The Cycles unfortunately cannot deliver. Graphically, the game is strong, with easily readable instruments and a good 3D perspective of the track. The engine, however, *grumbles* rather than throbs, and the bikes don't seem to travel at any great speed. The speedometer says you're doing 110 mph, but looking at the tarmac you'd think it was 20 mph max. Without this sense of speed, the game cannot thrill, no matter how good everything else is.



● No, those handlebars don't tilt round corners.

Light years ahead of *Test Drive II*, *The Cycles* is still dogged by the same central problem – the lack of any real pace. It's more of a slow-motion replay than a racing sim. This is not to say the game is easy, but control difficulty cannot replace speed as the core theme of a racing game. Try to take a corner on anything but the correct line and even the best bikers will find themselves slewing off the course.

There's only one explanation for the cycles attraction to grass – they must have been cows in a previous life. The handling and speed seem similar! **TW**

SECOND OPINION

"10mph looks pretty much the same as 100mph – it's just harder to stay on the tarmac." ***RL***

GREEN SCREEN

The grass is greener.

FIRST DAY TARGET SCORE

Qualify for a race

The Verdict

GRAPHICS 66%
☐ Nice 3D.
■ Too slow!

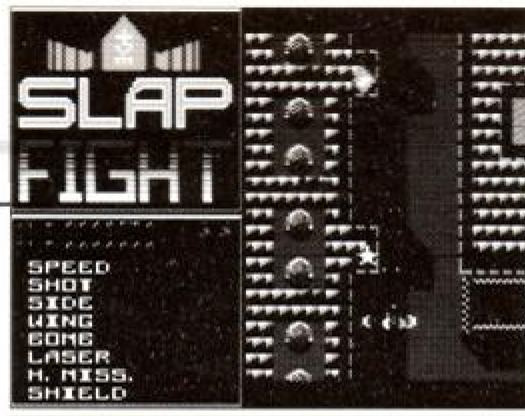
SONICS 33%
■ Bumble bee engines strike again!

GRAB FACTOR 33%
■ It's not exactly exciting.

STAYING POWER 45%
☐ There's loads of tracks to wade through.

AA RATING 52%

■ Motorcycle racing for the extremely timid!



● Plenty of enemies, plenty of weapons.



SLAPFIGHT

Hit Squad ● £2.99 cass
joystick/keys

They don't make 'em like this any more! A down the line shoot-em-up, *Slapfight*'s fast, colourful and mighty difficult to beat. It has a neat power-up system, and absolutely masses of aliens to kill.

The scenario couldn't be simpler. Cleanse the good planet Orac of all the low-life scumbag alien filth that's currently in residence. To do this you get a squadron of Slapfighters, and your own native cunning.

Flying in over the planet surface you've no control of height, just left or right as the screen scrolls down relentlessly. The blaster at the front's pretty poxy, but that can be altered later. Now, all you have to do is stick and move.

Sending certain (well, most) of the aliens crashing down in flames causes them to leave power-up stars behind. Swoop over these, and the firepower potential of the Slapfighter is dramatically increased.

Unlike most shoot-outs, the powers the stars bring don't come into effect automatically – you can either use them immediately, or bank them. One star gets you extra speed, two stars more firepower, seven stars a shield etc. To bring them into action, just stab the Space Bar at the appropriate time. This has the benefit of tailoring the game to suit each individual player. Rather than getting certain powers when the programmer feels you need them, now you can call in the artillery when you wish, helping to offset the weakness in your own style of play.

The small screen is slightly intimidating, as are the near-invisible shots of the aliens. The backgrounds, though, are clear and the speed of the ship reassuringly high.

Slapfight may just be another upwardly mobile shoot-em-up, but it's a darned good one. TW

SECOND OPINION

"The enemy bullets can be a bit hard to see, but the weapons selection system adds depth and gameplay to an already above-average shoot-em-up.

GREEN SCREEN

Those bullets don't get any easier to spot.

FIRST DAY TARGET SCORE

Finish Level One

The Verdict

GRAPHICS **77%**
☐ Packed backdrops.

SONICS **55%**
■ Average sounds

GRAB FACTOR **81%**
☐ A strong shoot-em-up hook.

STAYING POWER .. **62%**
☐ Fine in small doses.

AA RATING **69%**
☐ Fun for all the family – if they're alien-bashing psychos!

HEAD OVER HEELS

Hit Squad ● £2.99 cass
joystick/keys

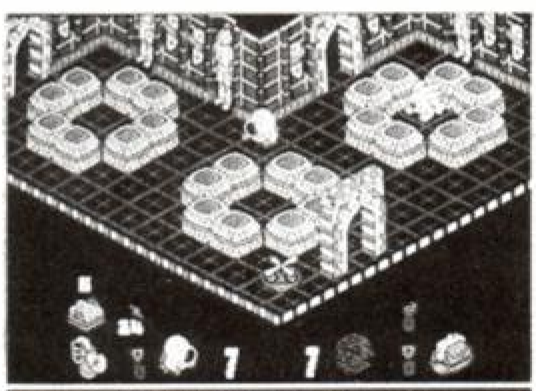


How many surrealists does it take to change a light bulb? A fish. It's this kind of humour that pervades that recently re-released old chestnut *Head Over Heels*. Yes, the game Dali would have been proud to write is back, and for only £2.99.



From the school of Isometric 3D – quite a trend in its time – comes a story involving two small creatures charging through room after room of some programmer's nightmare. Head and Heels, the two characters, can do everything you'd expect from arcade adventurers. It's where they run and jump, what they carry etc. that's the important bit.

The worlds the two brave 'things' charge around are the real stars of the show. There's Penitentiary planet – a prison world where you'll need to climb like a mad thing to survive. Safari Land – densely wooded, full of natives and full of traps. West World – where the Mad Emperor (against whom you're struggling) keeps his library of Zane Grey novels and Blacktooth, the final planet, teleport terminus for the empire.


● Quirky gameplay (and graphics), but great fun.

Head Over Heels is a great example of a genre that has passed on into the mists of time – unjustly, perhaps.

Programmed well, it plays excellently and if you feel the need to escape football or alien-bashing this summer it may be just what you've been looking for. TW

SECOND OPINION

"Looks like a Speccy port, but the graphics are detailed and amusing and the gameplay is deep enough to keep you going for a long time." RL

GREEN SCREEN

Green over Green can still be seen.

FIRST DAY TARGET SCORE

Don't be a dummy (lowest po

The Verdict

GRAPHICS **66%**
☐ Cute Speccy-style sprites

SONICS **55%**
☐ Cute tune!

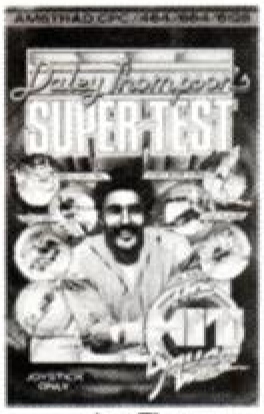
GRAB FACTOR **69%**
☐ Intriguing and big game!

STAYING POWER **52%**
■ Can the cuteness hold it together?

AA RATING **62%**
☐ A welcome re-run.

DALEY THOMPSON'S SUPERTEST

Hit Squad ● £2.99 cass
joystick



Do you enjoy a good waggle? Does it make your day to give that stick a really good shake? Do you feel the need to press your buttons time and time again? Then Captain Lucozade, Daley Thompson, decathlete extrordinaire, is here.

Based on the coin-ops that once ruled the arcades, *DTS* is a multi-event sports sim. That means lots of furious waggling, and thumping of fire buttons in quick succession.

This time Uncle D brings you eight different events to test your skill, style and stamina.

Day one takes you pistol shooting. Not even a wiggle let alone a fully blown 'wag' is needed here, just blast the targets. Then it's off to the races, cycles races, and it's here that the stick starts to take a hammering. The harder you wave the stick, the faster Big D's legs go, the faster he pedals. Event three, another waggle frenzy. Send Daley into the air, try to do as many somersaults as poss' before splashdown. The travel of the stick determines how fast the boy spins. Après pool, it's time to ski. Speed is gained with a quick stick shake, and then you just steer him through the gates. Excuse me did I say JUST steer! This one's a toughie, so slow down and take care.

Day two sees a rowing/waggling contest against the computer followed by a penalty shoot-out. Wave the stick from side to side to build up speed as DT approaches the ball, then press and hold the fire button to determine direction and height. Next is the Ski Jump. Speed's gained by the normal method, while take off and landing are fire button commands. It's almost worth crashing, though, just to see Dale' roll up into a huge snowball! The last event is a waggle to the finish in the Tug O' War. This gets progressively harder, as bigger men step up to take the rope.

The fatal flaw of this style of game is that it takes almost as much energy to play on computer as it does in real life! A few rounds of *DTS* and you'll have forearms the size of Schwarzenegger's. Which is handy, because then you'll be able to lift the box of joysticks the game's worn out, and carry them to the bin! **TW**

SECOND OPINION

"Yet another multi-event waggler. A case of plenty of brawn, not much brains." RL

GREEN SCREEN
Little difference.

FIRST DAY TARGET SCORE
Qualify for four events

The Verdict

GRAPHICS **66%**
☐ Reasonable animation.

SONICS **55%**
☐ Not bad for their day (ley).

GRAB FACTOR **67%**
☐ Fun first time round.

STAYING POWER ... **07%**
■ Only for serious masochists!

AA RATING 49%

☐ Physically tiring old sports sim.

ESCAPE FROM SINGE'S CASTLE

Encore ● £2.99 cass
joystick/keys

Dragon's Lair (as mentioned in the Multimedia feature) was the world's first interactive cartoon. It was also possibly the world's first unplayable arcade. Still, its name was legend, simply because of the graphics. Now here's the sequel, *Escape from Singe's Castle*.

SECOND OPINION

"The archetypal linear adventure. Solve it, and you'll never play it again." RL

GREEN SCREEN
Still as hard to beat.

With sword drawn and mail on, Dirk the Daring's off to do battle with the Lizard King once more. First of all, though, don't expect the pics to look like the coin-op. These capture the spirit, not the look.

Initial reactions to the game go something like: *Dragon's Lair* was a game that looked good but had no gameplay, therefore the CPC version would have neither gameplay or graphics. That is not necessarily the case.



● Find the safe tiles or learn to fly!

Escape is a tough one but not wholly unplayable, it just requires a little applied logic (and cheating).

Take the first level. Dirk has to cross a floor, parts of which disappear and re-appear at random. Some of the tiles, though, flash and stay around in a predictable sequence. Trying to remember the order is tough. Use something to mark the screen, however, and life becomes a whole lot easier.

Each level is a puzzle or test of reaction speed. Two sends poor old *DD* speeding down a river, and he must course the rapids using signs that only just flash on screen in time. Then there's Ye Olde Whirlpool where the canoe is chased around by vortices. Tough but short, each level needs perseverance to see you through.

The problem with that is that one good afternoon of games playing and it's finishable, as there are only eight short levels. Not what you'd call long-term prospects. **TW**



● Sailing down the river in your dugout canoe.

FIRST DAY TARGET SCORE
Get to Level Three

The Verdict

GRAPHICS **67%**
■ Not really of arcade quality.

SONICS **56%**
☐ Tolerable tune.

GRAB FACTOR **76%**
☐ You just HAVE to beat this infernal game.

STAYING POWER ... **23%**

AA RATING 65%

■ Only eight short levels.

Q

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FRUIT MACHINE 2

Codemasters ● £2.99 cass
joystick/keys



● It's the reel thing!

Is there anything more mindless than fruit machines? All those flashing lights, taunting text messages and irritating jingles seem to draw people like magnets in pubs and clubs. On offer is the slight chance to win a small amount of dosh. An amount that will hardly off-set the three weeks wages you've pumped into the thing to get this far!

So what hope could there be for a computer version that doesn't even allow you the chance to keep your theoretical winnings? A game whose forerunner scored a mighty 15% in *AA33*? Surprisingly the outlook is good for *Fruit Machine 2* (*Son of Fruit Machine's Revenge*).



● Can you make it to the Jackpot race ?

As much as you may loathe the concept, just play this simple little number once and you won't leave you machine for hours. The game's very simple. You have a couple of 10p coins burning a hole in your pocket with which to gamble. You are presented with a three-reel fruit machine which boasts every feature under the sun and you just have to spin and nudge.

Sub-games litter the place, all with their own blend of skill and luck, most concentrating on the press of single button. The more money you win, the longer your game, the greater your fame in the world of the one-arm bandits.

Fruit Machine 2 looks good and plays well, if a little slowly. The reels have a neat 'sprung' look to them and the choice of the base colours is suitably garish.

FM2 wins you over with the same siren song that its real-life counterparts employ. It creates an illusion that there's skill involved in this game of chance, and that's fatal. Time and time again you'll find yourself called back to the game, certain that now you know the secret, now you'll win. And of course, as in the real world, only the coin box ever comes out ahead! But if you've a failing for these fiendish devices then, £2.99 a small price to pay to feed the habit! TW

SECOND OPINION

"Mindless but addictive fun. There's simply no accounting for it (no pun intended)." **RL**

GREEN SCREEN
Less garish.

FIRST DAY TARGET SCORE

Win £5

The Verdict

GRAPHICS **66%**
☐ Limited, but serve their purpose.

SONICS **54%**
■ Now that's *not* what I call music!

GRAB FACTOR **94%**
☐ A truly fearsome hook.

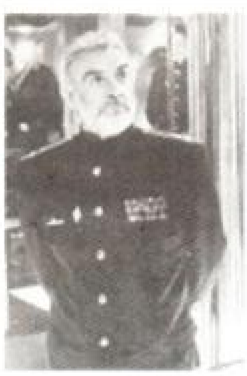
STAYING POWER ... **44%**
■ Only one machine to play!

AA RATING 71%

☐ Great budget investment!

THE HUNT FOR RED OCTOBER

Grandslam ● £9.99 cass, £14.99 disk
joystick/keys



A game so good they made a film of it! Well, things didn't quite happen in that order, there was the book, then the game, then the Sean Connery extravaganza. *Red October* is a chase where the sub is pursued by its previous owners – the Russians – and hunted by its prospective owners – the US.

Why is this sub so special? The Red October is a sub that's so sneaky and stealthy, even it's own crew don't know where it is, that's why. Using its revolutionary caterpillar propulsion system, torpedoes, cunning and firepower, you must guide the super sub to freedom.

To make the game playable, all the commands are icon driven. As soon as it's been clicked, it's done. Your crew are that loyal. Or they will be until they find out you're defecting. Starting out at the head base of the Soviet fleet you must first navigate your way through a maze of undersea canyons (known as Gorshkov's Railroad), while being pursued by other Red subs. All of whom want to send you to the bottom. Once out, then it's all hands below decks and off to the rendezvous with the US Navy.

Red October is an accurate representation of Tom Clancy's imagined wonder-sub. In fact, it could be said that the game is too accurate. The first few missions are spent seriously sinking, time and time again, as torpedoes rain in from all directions. Survive for ten minutes and you've got the record.

If you want to learn the inside story of today's wonder-weapons and are prepared to put a vast amount of time and effort into learning the basics of sub warfare, then *Red October's* for you. Gamers who like to meet with limited success reasonably quickly though, forget it. *Red October* is too realistic – your average Joe Punter would crash a nuclear sub at least once when let loose over the Reykjanes Ridge! TW

SECOND OPINION

"Involved and absorbing. Make sure you've got no appointments for the rest of the day if you want to get anywhere, though!" **RL**

GREEN SCREEN
Emerald maps become difficult to read!

FIRST DAY TARGET SCORE

Survive for ten minutes!

The Verdict

GRAPHICS **66%**
☐ Practical icon system.

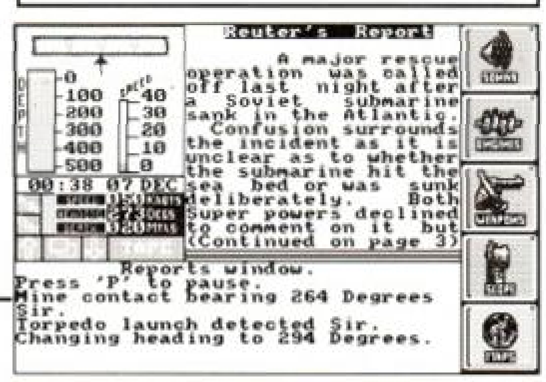
SONICS **33%**
■ Nothing special.

GRAB FACTOR **05%**
■ *RO* is extremely complex

STAYING POWER **68%**
☐ Stick with it and there's a lot to learn.

AA RATING 61%

☐ A simulator that's too real!



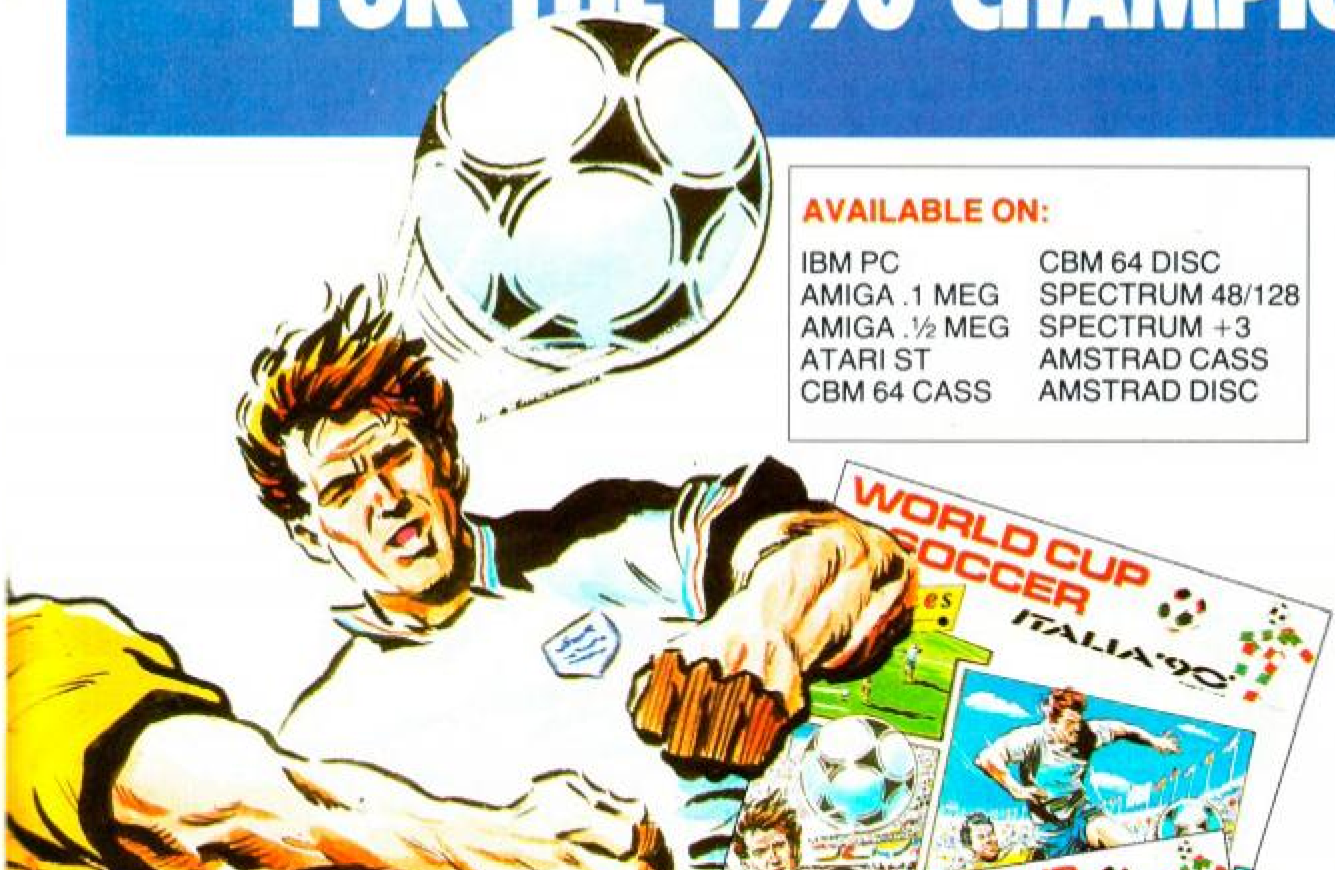
● The main control window of the Red October

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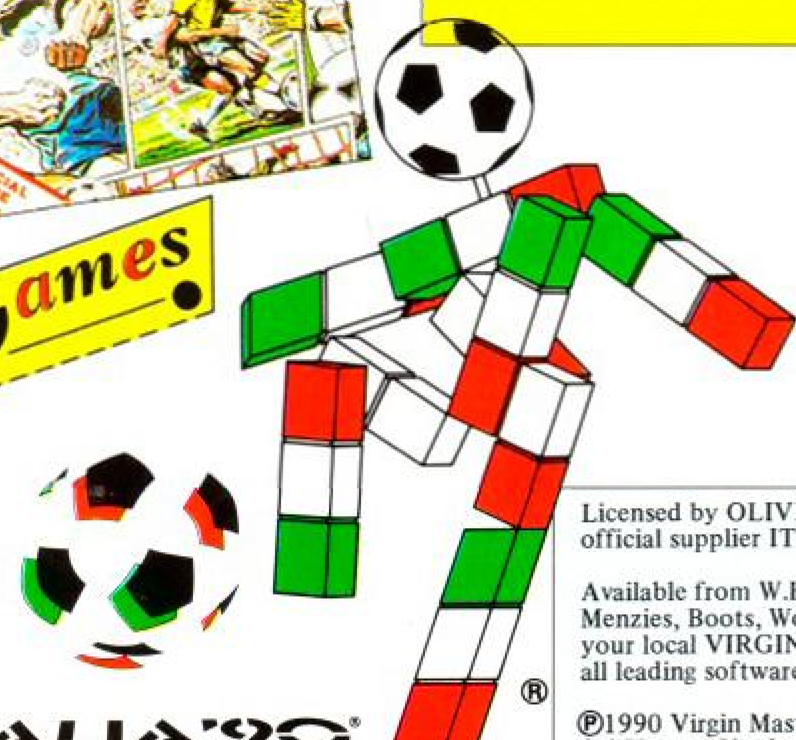
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ITALY 1990

US Gold ● £9.99 cass, £14.99 disk joystick/keys



"And they think it's all over... It is now!" heralded England's 1966 World Cup triumph. Can history repeat itself? Find out this summer in *Italy 1990.* In yet another footie game, the Goldies bring you the whole tournament, wrapped, packed and ready to play. It's 13,000 square yards of prime Italian turf, shoehorned into a box. All very well but, does it play like a Brazilian or a Korean?

The football sim midfield has become a little clogged recently, and it takes a good team to set up a goal scoring chance. And that's exactly what US Gold has done. As Des Lineham would say in a game of 90 minutes, Gold's scored the winning runs, with the final punch of the fight.

Italy 1990 is set, not surprisingly in Italy, in the year of our Lord 1990. The venue's the World Cup, and you can be anyone you want as long as they qualified. So if you support France or Wales, TOUGH! The game's a straight replica of the tournament as it will be played. There's the choice of one or two-player friendlies, as well as the chance to lift that famous trophy above your bonce if you win.

Playing couldn't be easier, in theory. An arrow marks the man you control, and keys or joystick send him scurrying around. The reason for the reservation, though, is totally good, because this baby's fast, really eye-numbingly fast! So for the first few passes, you'll find the guy you thought was going for the ball tackling a Cortina in the car park.



● It's so fast!

With sharp, small sprites, the animation's smooth and accurate. Tacklers slide, goalies dive, and the set pieces all have great little sequences of their own. Added to this are some great sundry pics that give the game a solidit, previously unheard of in soccer specials. TV announcers tell you about the matches, an electric scoreboard informs both players and crowd of goals, free kicks etc, while during the team squad selection both shirt colours and player descriptions are displayed.

SECOND OPINION

"The fastest footie game ever! The great graphics and sensational speed make it the most playable soccer sim to date. There's no doubt about it – US Gold has really come up with the goods this time." AW

GREEN SCREEN

Some shirts are hard to spot.

RAVE!

The World Cup is where the game's essentially at. The two-player games are excellent fun, but only have personal rivialry for motivation *(ha! I won 13-10! – ed)* but this cannot compare with the thrill of chasing football's greatest prize. Play well here and the life gets tense as you wait to see whom the next round brings.

With a variable match length it can be either a sudden death, first to score sort of game (2 mins each way), or a mammoth test of skill and stamina (45 mins). The one disadvantage of the long game being, if you draw Cameroon, you cease to care about goals after the first 1,000!

Expertly programmed and eminently playable, *Italy 1990* has one weakness, it's too easily beaten. The first time I played the tournament section – albeit in 2 min mode – England waltzed off with the cup! So, there was a penalty shoot out against Italy in the quarter final (a really great section), but it still meant that the prime attraction for the game was over, kaput, finito.

Italy 1990 is a superb soccer game, that can expect a long life in the drives of many joystick strikers, simply because it's one of the best soccer sims ever on the CPC. If the tournament had been tougher it would have claimed the mantle of the best full stop. It doesn't quite make that grade, but as the hype machine hits top gear, it's reassuring to see that game lives up to the pre-match palaver.

As time ticks on in the World Cup Sims competition, the Goldies have beaten the offside trap and seem certain to score a winner! TW



● Pick your own squad.



● Whoever you play, the shirt colours are correct!



● The TV announcer tells the tale of the cup.

FIRST DAY TARGET SCORE

Win the cup in two min' mode

The Verdict

GRAPHICS 90%
- Plays at one hell'uva pace.
- Even the shirts are the right colour!

SONICS 77%
- Music, whistles and fans. Brill!
- Extra bits for 6128s.

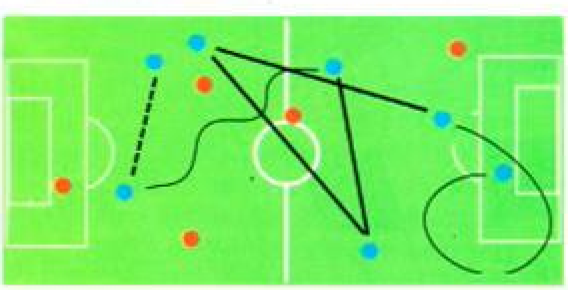
GRAB FACTOR 88%
- Played in the classic footie style...
- ...So instantly picked up.

STAYING POWER 56%
- Lacks decent computer opposition.

AA RATING 88%
- Hope the real thing's as much fun!

Great goals of our time. #54

Acrington Stanley
Vs Atheltico Madrid (1836)





Palmerston (Keeper for Acrington) kicked the ball to half way line. Marx trapped the ball neatly on the chest and played it on to Regan. Regan hoofed a crossing ball to Mozart who hastily side stepped Salieri to lay the ball on for Gladstone. The famous England winger (106 at the time!) dribbled into the penalty area and flicked the ball up for Macbeth. He deftly aimed the ball past Cromwell, who'd strayed from his line, to score. The crowd went crazy!



LIVERPOOL

Grandslam ● £9.99 cass, £14.99 disk joystick/keys

The hottest licence in Soccertown is here. Liverpool, league champions, football geniuses, and all-round decent chaps have given their name to Grandslam's latest offering. It's a soccer sim that let's you take over where Kenny D leaves off. Will it take the cup or forever walk alone?

The options centre on league or friendly matches, against either a mate or the machine. The view's from the side and the aim's to win as much as possible, for further Kop glory.

That's the idea anyway. The problem is the game doesn't live up to the name it so proudly bears. The players are all there, as are the teams. So John Barnes can score against Arsenal. The implementation however, is infuriating.

The large player sprites are hardly lifelike, but that's not necessarily fatal – *Kick Off* was OK, and its sprites were appalling. What really holds *Liverpool* back is the lack of speed. The players amble, not run, about the pitch. The ball – which often appears square – bounces as if the game was being play in lunar gravity while tackling proves nigh-on impossible. The players never go for the ball, they just stand there kicking each other for days!

Underneath it all you know there's a game trying to get out, but it doesn't stand a chance. The odds are stacked against it the minute the menu screen disappears. There are some nice ideas, such as the small map of the pitch showing players' current positions, for example. Yet, with such an irritating lack of control, playing the ball to a man in space is the last of your concerns. TW



● Kop this, Liverpool in action.

SECOND OPINION
"Just too slow to be credible." RL

GREEN SCREEN
No better.

FIRST DAY TARGET SCORE
Score a goal

The Verdict

GRAPHICS **52%**
□ Very square players – not in the trendy sense!

SONICS **55%**
□ Tunes and the occasional whistle.

GRAB FACTOR **23%**
□ Well, the name's quite appealing!

STAYING POWER ... **45%**
■ It's a bit of a struggle.

AA RATING **46%**
□ *It might give the 'Yeovil Town FC' game a run for its money!*

MANCHESTER UNITED

Krisalis ● £9.99 cass, £14.99 disk joystick/keys

Ready for the cliche of the eon? Football is a game of two halves, or at least it is in the case of *Manchester Utd*. Here you're a manager and joystick-juggling striker simultaneously. And what's more you can play either a full management sim or just the arcade leg.

As management sims go, *Man Utd* offers little that's new. It's icon-driven and gives a vast range of options to keep the accountants happy. And there's enough going on to make sure you appreciate the pressure young Ally' Fergusson was under.

The arcade section's nothing to shout about. Viewed from overhead, it's another in a long line of soccer games. Not a particularly fast game, everybody's easy to control and that's the important bit. The opposition isn't hard to beat, but it's unfair to judge this section as a stand alone, because it's an integral part of the *Man Utd* package.

The major hardship to be endured with *Man Utd* is the tape version. As the game flips between arcade and management this means repeated loading and reloading. No probs on disk, but on tape it takes a lifetime.

Overall there are no complaints, but neither side of the package excels. The management competition isn't the most complex of its kind, but is far from being a slouch. The arcade section is no third division pretender either, but is left standing by *Italy 1990*. *Man Utd* won't win any silverware this season but they give a better account of themselves than certain Merseyside computer teams you could mention! TW



● Make like Alex Fergusson with Man Utd.

SECOND OPINION
"Creditable but dull." RL

GREEN SCREEN
Ok'ish.

FIRST DAY TARGET SCORE
Not applicable

The Verdict

GRAPHICS **66%**
□ Clear icons.
■ Scrolling jolts on pitch.

SONICS **60%**
□ Great tune, but little else.

GRAB FACTOR **55%**
□ Two games in one.
■ Two loads in one!

STAYING POWER ... **65%**
□ Can you last longer than Bobby Robson?

AA RATING **61%**
□ No classic, but tolerable.

ACTION TEST

IMPOSSAMOLE

Gremlin ● £9.99 cass, £14.99 disk joystick/keys



● Monty's on the ropes in the Klondike.



● Out of energy! Is that coin worth the risk?

As Henry Vth said, it's "One mole to the breach dear friends" because Monty's back in *Impossamole*. Since his demise in the mid-'80s, fans have been clamouring for the return of this furry funster. Unlike Oliver, their plaintive pleas of "please Sir, can I have some mole" have, at last, secured a whole new series of games for software's first superstar.

Impossamole finds Monty enticed from retirement by a band of aliens. They give the little guy super powers so he can defeat the Five Guardians. Ever ready for a challenge, his batteries fully charged after five years off, MM says Yo! And hi, hi, it's off to fight we go!



● Killer puffin on the loose!

Monty was the platform adventure king. Leaping around multi-level arenas, he collected odd objects, dodged traps and found secret rooms. *Impossamole* sticks rigidly to this formula, adding an extra something to the game – namely, decent graphics.

The Five Guardians Megamole has to find are tucked away in five different locations. The first four can be tackled in any order, but only when all these have been beaten can our boy burrow into number five's hidey hole. Whichever one you pick, though, it's a tough starter that gets more dangerous and more confused by the moment. Whether you kick off



● Avoid that spitting tree frog.

SECOND OPINION

"Monty Mole is ace. Great platform action that hasn't lost any of its charm." AW

GREEN SCREEN

Impossamole sometimes goes *Inivisimole!*

in Iceland, the Klondike, the Amazon or Orient, you'll find life's hard as a one foot tall earthmover in a cape.

Iceland, as one would imagine, is a land of ice, where the platforms are snow-drifted logs and cable cars. Puffins hunt the mole on a mission, continually stripping him of energy by touch. Mountain men fire blunderbusses and abominable snowmen sentinels stand guard. Here, as on all the levels, MM must work his way through each screen, picking up grub for energy, coins and weapons. Unlike the bad old days – when one slip cost Mont' his life – new, improved Wondermole (ozone-friendly with no artificial additives) has a small amount of energy to help him survive hamfisted play.

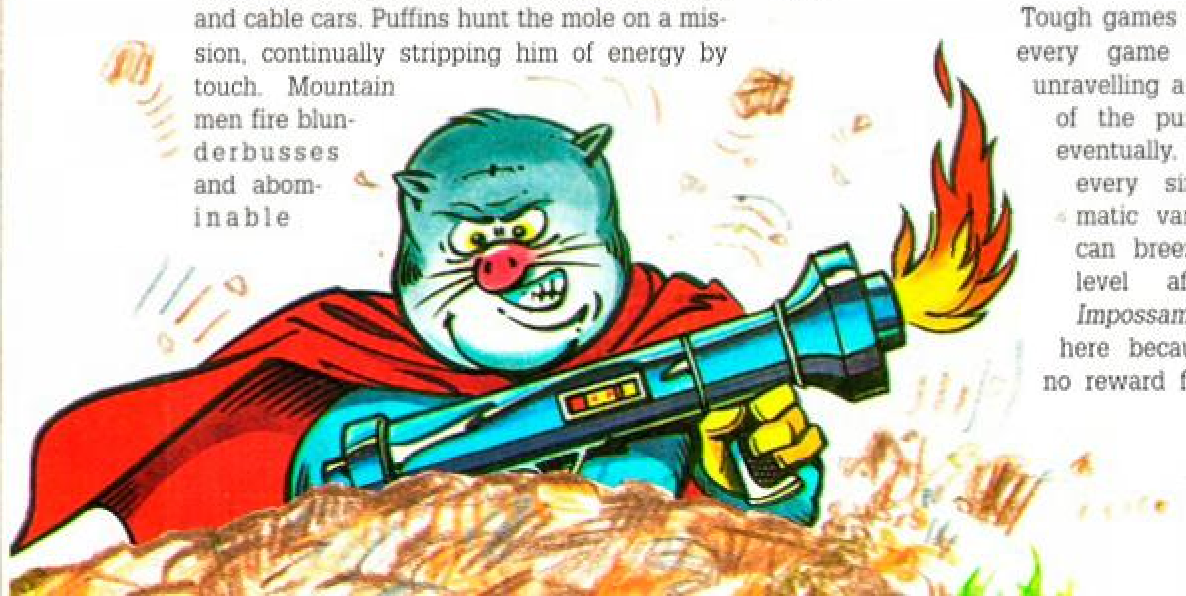


● Punch that ape, get a coin!

The Amazon's no better on the foe front. Humming birds patrol instead of puffins, and cheeky monkeys hide coins. The recent population explosion amongst triffids and snakes does little to aid restful sleep, either. Oriental land is filled to overflowing with ninja and other martial arts nutters, while the Klondike's just plain dangerous.

As superheroes go, Mont' ain't nuthin' special. He can't leap tall buildings in a single bound, isn't faster than a speeding bullet and definitely is unable to bend steel with his bare paws. All he gets are a few extra bits of energy to see him through. There's one special 'smart bomb' superweapon to use once a level, although he can carry loads more. All in, even with his special powers, the mole who came in from the dole is much as he was.

Playing *Impossamole* is a voyage into to pure frustration. The leaping has to be exact – a millimetre out and you fly to the ground below. Not much fun when you land on an alligator's head. The bad guys are incredibly resistant to damage and mightily persistent. Most annoying, though is the fact that you don't see how the mole dies. An integral part of puzzle-solving has to be learning from mistakes and if you don't see the terminal ones the game can stall.



Tough games last longer, every game you play unravelling a little more of the puzzle. Until, eventually, you know every single enigmatic variation and can breeze through level after level. *Impossamole* fails here because there's no reward factor. With only one life and a small energy supply, you have to get through whole levels in one go! Mess it up at the end and you restart back at the very beginning – a one-way ticket to annoyance city. The guns collected on Monty's travels only work on half the enemies, while the food stashes are a long, long way apart.

While the game plays well, the odds are monumentally stacked against the player. *Rick Dangerous* – Core's previous outing – featured both multiple lives (balanced here by the energy bar) and was littered with restart points, yet Microprose still had to re-issue an easier version! *Impossamole* is equally vast, and as hard, but lacks, even the limited player-friendliness that pervaded *Rick*.



● MM goes for a cuppa out East.

Veteran gamers will find *Impossamole* a gas, a real blast from the past. But therein lies the rub. Graphics aside (the Core's are vastly superior) Monty games haven't changed. They've been given a shot in the arm but the format itself has been mined to exhaustion in previous seasons. With nothing really revolutionary added *Impossamole* therefore appears as a little more than *Monty Mole: the '90s Re-mix*! TW

FIRST DAY TARGET SCORE

Don't break anything in anger!

The Verdict

GRAPHICS 81%
- Monty looks good for his age!
- Great scenic backdrops.

SONICS 66%
- Smart theme tune.

GRAB FACTOR 33%
- Simply too aggravating for words.
- No re-start points!

STAYING POWER 75%
- Masses of rooms to explore.
- Five huge levels – if you can face them!

AA RATING 66%
- Colossally frustrating re-vamp.

Balrog

The beastly Balrog is back!



Welcome once again, fellow travellers to yet another chat with your favourite fiend – the Balrog...!

Clue Sniffing with the Balrog

We tackle some very sticky situations in this month's Clue Pot. These tips have been sent in by Antcrusher, Adrian Forbes, Simon Netherwood, Joan Pancott, Hazis Dolgizas and Jerome Young. Keep those clues coming in, fellow Balrogs – remember, one day it may be YOU who's stuck and in need of help!

Boggit

- At the start: Open chest, climb chest, examine diary, climb out, type in Fordo's birthday and throw chocs to get rid of those chocolate surprises.

Colour of Magic

- Part 2 Start: R, T, T to River, H, H, H, H to Stables, talk to vendor, buy horses, get horses, R, R, R, R, W, W, H to Courtyard (see Twoflower and the Luggage, you mount your horses and are then on the Road), W to Crest if Hill, R to Camp-fire (see Weasel and Bravd), asked if you will tell a story for some food, yes, H, W, W, kill troll.

Corruption

- There's a perfumed letter on the shredding machine at Theresa's office. You must take it before she returns

BALROG'S POST

Role-playing criticism

"Can I ask you through your column if anyone who plays adventures really likes games such as *The Bards Tale etc*? These so-called arcade adventures appear to be taking over. I think most adventurers like myself prefer the old-fashioned puzzle game rather than role-playing. Surely, if adventures are at an all time selling low, then these RPGs must be even lower in the money-making market? If this is the case, how can companies justify releasing them instead of the traditional games?"

Jim Struthers
Blyth

An interesting point Jim, but one on which I have to disagree with you – role-playing games in fact sell more than 'normal' adventures. I enjoyed both Bards Tale *and* Ring of Darkness *thoroughly. I also enjoy strategy games (aha! The Balg plays non-adventures!) especially* Laser Squad *(which is similar to a real role-playing game in some respects).*

Sometimes it is good to take a break from playing an adventure game and play something different which still requires thought and isn't just a mindless shoot-em-up. These games, especially RPGs, are very good in their own special way. If you haven't tried, say, Bards Tale, *I recommend you do – it really is an epic game in both size and quality and the amount of response I have received for the Bards Tale Club illustrates this.*

One other good thing about Bards Tale *is that it has introduced many new adventurers – not only are people reading* Balrog *who never read it before because of the Bards Tale Club, but readers are also now buying other 'adventures' on the strength of* Bards Tale. *That's why I am soon to be running a 'Beginners guide to the Adventure Game'...*

Infocom swap

"Since I wrote last I have been in touch with someone by the name of Nic Rumsey who runs an Infocom swap service. How anyone could let an Infocom title go I don't know, even when it HAS been solved. Obviously some do, so how about a big plug for him. He can be found at: **167 Eastbourne Road, Lower Willingdon, Sussex, BN20 9NB** or telephone 03212 2737 between 6 and 9pm."

Dave Harvard|
Fareham

Thanks for that tip, Dave. If you have any Infocom games that you no longer want or want to get your hands on some Infocom games, then why not get in touch with Nic and he may have the game you want. Don't forget to tell him that the Balrog sent you!

Am I the only Mum?

"I'm a Mum, and due to the fact that my dear son has gone off to London to work and left his CPC behind, I've had a chance to start a relationship with it. I find adventures fascinating and I completed *Forest at the Worlds End*, *Message from Andromeda* and a couple of others and thought to myself 'adventuring is easy!' Then I bought *Adventure Quest*, *Bards Tale*, *Lancelot* and *The Hobbit*, all of which have parts that puzzle me. What I want to know is have I started to run before I can crawl? Are there more Mums like me, I wonder?'

Jackie Sterling
Glenrothes

Firstly, congratulations on completing Forest at the World End *and* Message from Andromeda *– although both are good they have some annoying word matching exercises that can make them difficult at times. As to you running before you can walk, perhaps you are in some respects but I wouldn't worry – you will soon start to learn! The selection of games that you have are all very good and you just can't expect to complete them quickly – that is the whole point of adventure games! Look out for tips for the games, and keep trying. If you are really stuck then write to a Lord or Lady of Adventure and I am sure they will help you*

from the bathroom. During this time you must also go into your partner's office (UNLOCK DOOR WITH THE BRASS KEY you'll find if you OPEN the DRAWER of Theresa's desk) and GET CASSETTE.

- If you want to listen to this cassette ,go to the Car Park and in your car (GET KEY FROM POCKET. UNLOCK BMW DOOR WITH IT) PUT the CASSETTE INTO THE STEREO of your car.

Cutthroats

- The first thing you should do is wind up the watch. Get the trust book when you're told to by Johnny. Go along to the bank and withdraw $600.
- Don't let McGinty see you carrying anything to do with diving or money.
- Have the shark repellent ready, and make sure the torch is lit as soon as you enter the water.
- Once in the water and past the shark, just keep going down. If your co-ordinates are correct you will be at the wreck site.

Dracula

When you get to bed in the first part, the food you eat before determines what happens to you at night:

- Attacked by a wild dog: Look around, look table, get bone, give it to dog, return to your room.
- Choked to Death: Make sure you get to bed sooner. Always close your window, and when you do leave your room, be sure to take a candle.

Hitchhikers Guide to the Galaxy

Enjoy poetry, write down the second verse, press switch on Vector Plotter and type in the appropriate word. Buy the sandwich in the pub and give it to the dog.

Hobbit

To escape from the elves dungeon throw barrel through trap door, then jump.

Jinxter

- Getting to the village: Do as above with canoe, enter canoe, S, SW, stand and S.
- The Bakery: Go to the bakers shop, ask the baker about the job, D, open the oven, get the tin, put it in the oven, close the oven, push the button, open the oven, get the tin, close the oven, U, show the bread to the baker, U, show the bread to the baker. You may now leave – while you're doing this you may also inspect the larder which is to the east of the bakery kitchen.

Pawn

- Melt the snowman with the white.
- Take and wear the Spiky boots and dig lumps with them.
- Examine the fountain in the garden.
- Look under the garden shelf.
- Give the alchemist the rice and the lead.
- Search sofa.
- Wear hat.

PROGRAMMING WITH THE BALROG

Thanks this month go to Mike Barnard and Paul Robson for their tips on getting the most out of the *Graphic Adventure Creator*. If you have any tips on *GAC*, or any tips on how to write adventures, then why not get pen to paper, quill to parchment or finger to keyboard and write to the Balrog at the usual address. The Balrog is especially interested in any external machine code routines for use with *PAW*.

There is no practical way of achieving Noel Llopis' idea in *AA*51 of adding your own calls to *GAC* (as you can do with *PAW*) but you can use some of the control codes to good effect. Control codes can be incorporated into a game's room or message descriptions.

These control codes are listed in chapter 9 of the manual. Letter them starting at 1="A", to 26="Z" then 27="[", 28="\", 29="]", 30="^", 31="0" to make reference easier.

For example:



CTRL + Variable		Note	BASIC equivalent
D	n	Change screen mode n=0-2 (GAC still uses 40 columns though)	MODE n
G		Bell (Beep!)	PRINT CHR$(7)
H		Move cursor left 1 character	PRINT CHR$(8)
I		Move cursor right 1 character	PRINT CHR$(9)
J		Move cursor down 1 line	PRINT CHR$(10)
K		Move cursor up 1 line	PRINT CHR$(11)
L			CLS
N	n	n=Paper number 0-2	PAPER n
O	n	n=Pen number 0-3	PEN n
X		Inverse video on/off	
\	n xx	n=Pen number x=letter representing a colour (appendix B of GAC manual, two different X's mean a flashing colour.)	INK n,x,x
]	xx	Set border colour	BORDER X,X

For example, 'CTRL-L, space, rest of message...' will clear the window (code 12) and print a message. You can also change colours with these, although I would suggest setting up a sequence to reset colours to normal in case of error – if this happens you won't be able to read the menu or anything else! You can do this by setting up a 'dummy' room with the following codes:

\0AA	INK 0,1
\AXX	INK 1,24
N0	PAPER 0
OA	PEN 1
]AA	BORDER 1

Note: These are all typed with 'CTRL' pressed, except the zero which is typed on its own. The codes should be continuous, I have separated them to show what each section does.

You can now experiment with the codes, eg, at the beginning of a room description, you can change colours, make a beep, etc. If the colours go wrong, press ESC until the menu screen, press 'B' for beginning room, delete old start room, and type the number of the dummy room, 'ENTER', 'ENTER' to start game, and the colours will return back to normal.

Thus your GAC games can now have sound (well a beep!), varying modes and multi-colour descriptions!

CONTACTING THE BALROG

As always, the Balrog is interested in all matters adventurial, so write to The Balrog c/o *Amstrad Action*, and your letters will be sent by orc to the Balrog's Lair. All letters are read and your points, although not always printed, are always noted.

JUST FOR LAUGHS

This bumper collection of amusing responses is brought to you by Mark Berbezier, Simon Netherwood, Antcrusher, Grue, Stuart Whyte, Claire Smith and Nigel Arnott. If you know of any amusing responses in an adventure, then why not send it to me and share your laugh with a Balrog...



The Big Sleaze

- Typing "Fergus McNeil"
- Examining the ice box at home.

Lurking Horror

- Attack the Hacker.
- Kill yourself with knife.
- Jump off skyscraper roof.

Mindfighter

- Try removing your boxer shorts in part 4.

Rigel's Revenge

- In the basement below the street, enter the bathroom. Remove clothes. Then approach guards in nude.

Sorcerer

- Try casting the proximity spell *(from the chest)* on anybody but Belboz, or look up the facts about Infocom and Meretzky in the encyclopaedia.
- Try mixing potions.

Spellbreaker

- Go down into the Dungeon and then Liskon yourself, then open the cabinet and climb into it.

Stationfall

- Shoot yourself with gun

BARD'S TALE CLUB

Julian Lynne has a team with warriors each at level 35 and they have the help of an arch-mage. The team's name is 'Lord'. He thinks the Bards Tale club is a great idea, and has both the tape and disk versions of the game, but says that the disk team is a lot more advanced than the tape version. He wants to know what Fin's Flute and Lak's Lyre do?

Julian Lynne, 552 Galleywood Road, Chelmsford, Essex, CM2 8BX Tel: (0245) 352555

"I've just finished the game after 250 hours of play and I think it's brilliant – it was the first game I bought on the Amstrad! If anyone wants a copy of my characters I used (40th-65th level) plus maps of every level, then send me a disk and £1.50 to cover photocopying."

P Clement 50 Drury Lane, Houghten Regis, Dunstable, Bedfordshire LU5 5ED

Steve Fox has some tips on cheating:

"Create your character with a Bard. Don't buy anything, just exit the Guild and pool your gold then give it all to character 1, enter guild and save, then load the merger as instructions. Now load your party into it seven times, renaming characters in parties #2-#7 to #1-#36, then delete those who don't have cash which leaves party 1 and numbers #1, #7, #13 and so on, create a party with these numbers and pool the gold again, keep doing this until you have loadsagold. Then just save your party and you have six very rich people! Also try pooling the fire horn many times as it is a VERY useful item."

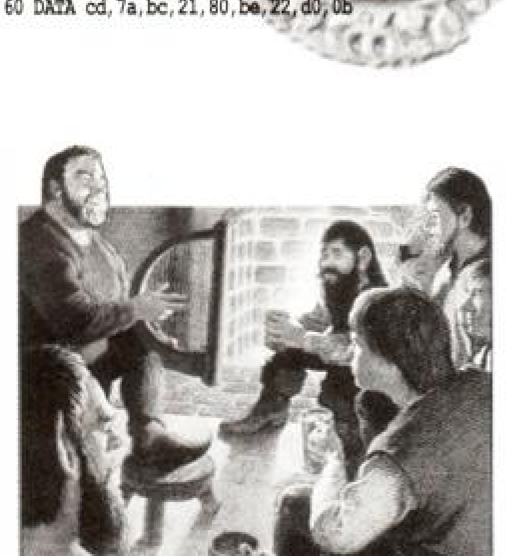
10 South view, Ty-Rhiw, Taffs Well, Mid Glam. South Wales

Stuart Whyte has written in with a clever tip for disk owners – if you use a disk editor on the *Bards Tale* disk you will find all of the dungeons as files. Try swapping some file names around (such as the last level of Mangar's Tower with the cellars) and you can complete the game very quickly! Make a back up of your *Bards Tale* disk first or you may find the game unplayable!

Stuart Whyte, 53 Ridgeway Road, Timperley, Altrincham, Cheshire WA15 7HL.

Here's a short program written by **Andrew Wright** which allows *Bards Tale* to be compatible with the ROM version of *Protext*:

```
10 MEMORY &6FFF:LOAD"boot.bin",&7BD4
20 FOR x=&BE80 TO &BE8B:READ a$:POKE x,VAL
   ("&"+a$):NEXT
30 FOR x=&7BFD TO &7C05:READ a$:POKE x,VAL
   ("&"+a$):NEXT
40 CALL &7BD4
50 DATA 11,40,00,21,ff,b0,0e,07,cd,ce,bc,c9
60 DATA cd,7a,bc,21,80,be,22,d0,0b
```



Lords & Ladies of Adventure



Here they are again, welcoming once again Simon Netherwood, Graham Wheeler, Bob Adams and the Grue to the most prestigious column in Adventuredom. Graham in particular deserves a mention - he also offers to play test readers' games so, if you have written an adventure, why not get in touch with him and he'll tell you what he thinks of it. Don't forget when you contact the Lords and Ladies to enclose a stamped self-addressed envelope if you're writing or, if you're phoning, to keep your calls to sociable hours.

Big Sleaze • Boggit • Forest at the World's End • Hitchhikers Guide • Hobbit • Jewels of Babylon • Lurking Horror • Mindfighter • Never Ending Story • Rigel's Revenge • Scapeghost • Very Big Cave Adventure.

Simon Netherwood, 36 Toothill Bank, Rastric, Brighouse, West Yorkshire, HD6 3EZ. Tel: (0484) 719326

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Called to account

The 6128 is an ideal machine for a self-employed individual or small firm to use as a general office machine. It isn't too expensive to buy and there's a good range of standard office software for it. And the most important part of any business is making the books balance. KEITH POMFRET looks at two programs which aim to do just that...

GENERAL LEDGER 6128

SD Microsystems ● £29.95 disk ● Tel: 0462 422897

SD Microsystems is no stranger to the 6128, and its accounting program has been around for some time. But being a firm that moves with the times, SD has listened to its customers' needs and streamlined the program into the current *General Ledger 6128*.

What's up doc?

The documentation is the most important part of any application. A hastily-typed sheet with joystick instructions may be enough for a game, but a good manual is as essential to an application as good software. The SD manual is output from a dot-matrix printer and contained in a loose binder that can, thankfully, be wiped clean of excess midnight oil.

The twelve pages are clearly laid out but unfortunately are on a rather 'sudden' shade of mid-blue paper. This doesn't detract from the contents but can hinder the readability. The first page is a resumé of the update information from the last version and upgraders will applaud the idea of having this information readily to hand.

After the update information comes the introduction proper. Various options are outlined and the installation is explained on a step at a time basis. Once installed and into the system proper, you can play with an included file called 'sample' until you feel confident enough to work with your own data. The manual then takes you through the main steps of ledger work and shows you how to initiate the routines that perform the various tasks.

VAT Man

The dreaded Value Added Tax is integrated into the package and the manual outlines three VAT formats that should cover all the needs of a business. A section on reports outlines what is available, giving nine sorts of report that can be generated and finally a print option. The



system defaults to a standard generic Epson printer. No hint of other printer drivers is given but a reasonable programmer should be able to make the necessary tweaks.

In the driving seat

After a good read, it's time to Generally Ledge. Following the instructions takes you into a well-planned and well-thought out modular program that does everything it sets out to. All the features and functions were there but you will find yourself constantly referring back to the documentation for things which after using it for several hours should have become second or at least third-nature. One nice feature is free support for a couple of months after purchase and then continued support for a mere twelve quid a year.

The long and short of it? *General Ledger* does the job in a sometimes pedantic way. A person who hangs on to the documentation religiously will find it a well-featured, comprehensive program. But to someone who drives on inspiration and intuition, *General Ledger* is

HORSES FOR COURSES

These two accounts packages set out to do the same job from a different direction. The traditional and rather stolid *General Ledger 6128* will appeal to those who don't mind constant reference to an instruction manual. Without it, however, General Ledger is at best difficult. With frequent use of the manual, however, it achieves exactly what it's designed for.

***Small Business Accounts* has a different, brighter approach to applications software. A traditionalist wouldn't feel comfortable with it but the sort of businessman or self-employed person who wants an easy to drive, functional tool will choose this one.**

Neither have many bells or whistles but both achieve their ends. If anything, *Small Business Accounts* program wins by a short head for its user-friendliness.

SMALL BUSINESS ACCOUNTS

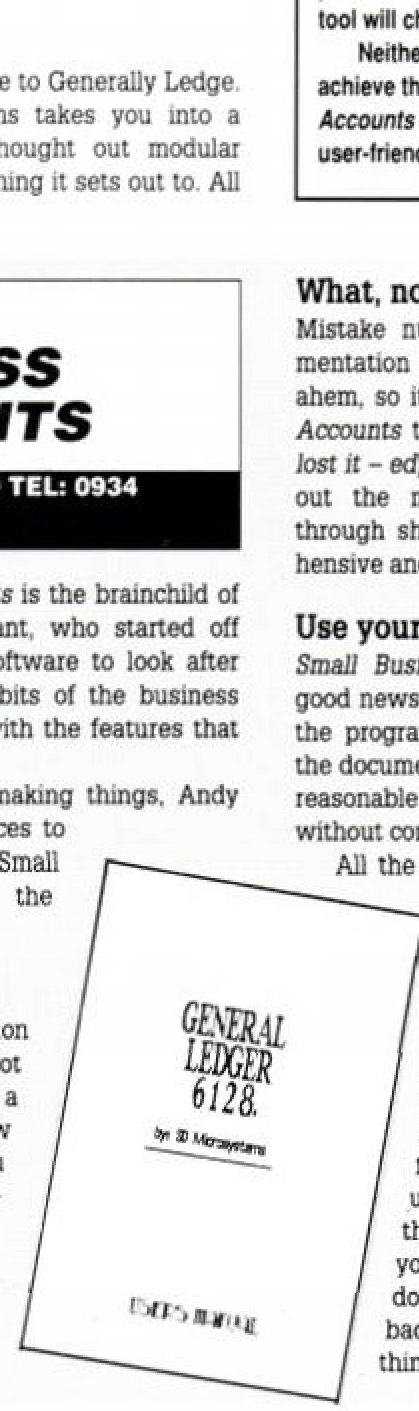
ABC ● £23.00 disk ● TEL: 0934 516714

Small Business Accounts is the brainchild of carpenter Andy Constant, who started off shopping around for software to look after the number-crunching bits of the business but couldn't find one with the features that he wanted.

So, being used to making things, Andy applied his creative juices to programming and Small Business Accounts is the result.

Easy reading

Again, the documentation is the product of a dot matrix printer, with a cover a shade of yellow guaranteed to send you running for the sunglasses. Inside, thankfully, the documentation is the conventional and easier to read black-on-white.



What, no words?

Mistake number one. Somehow the documentation and the software got separated, ahem, so it was time to try *Small Business Accounts* the intuitive way (*you mean you lost it – ed*). Just how far could you get without the manual? (A subsequent browse through showed the manual to be comprehensive and easy to follow.)

Use your intuition

Small Business Accounts is intuitive. The good news is that you can follow the flow of the program without constantly refering to the documentation and can cobble together a reasonable facsimile of your yearly accounts without constant reference to the book.

All the nasties like VAT and paying out were there but they were less painful thanks to a friendly interface that had clearly involved thought on the part of the programmer.

Monitoring your progress

A nice touch was the monitor function that keeps to hand a tabulated list of your previous steps through the program. This allows you to see at a glance what you've done recently and if necessary, step backwards if you need to redo anything.

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1

ST FORMAT GOLD

Rainbow Islands
from Ocean

This follow up to Bubble Bobbie looks set to be as much of a hit as Ocean's last cutesy game, New Zealand Story. It combines colourful visuals with frighteningly addictive gameplay, with the result that you end up with one hell of a game.

Graphics have been downloaded from the original arcade version and the moves are just the same. Lead Bub and Bob to the top levels by firing rainbows into the air and then climbing them. When you reach the top of a platform, you can collect thousands of bonus points. There are seven islands to complete, each one more challenging than the last.

"Graftgold's ST Version of Rainbow Islands is one of the best coin-op conversions to have appeared in along time" Maff Evans, ST Format



Rainbow Islands

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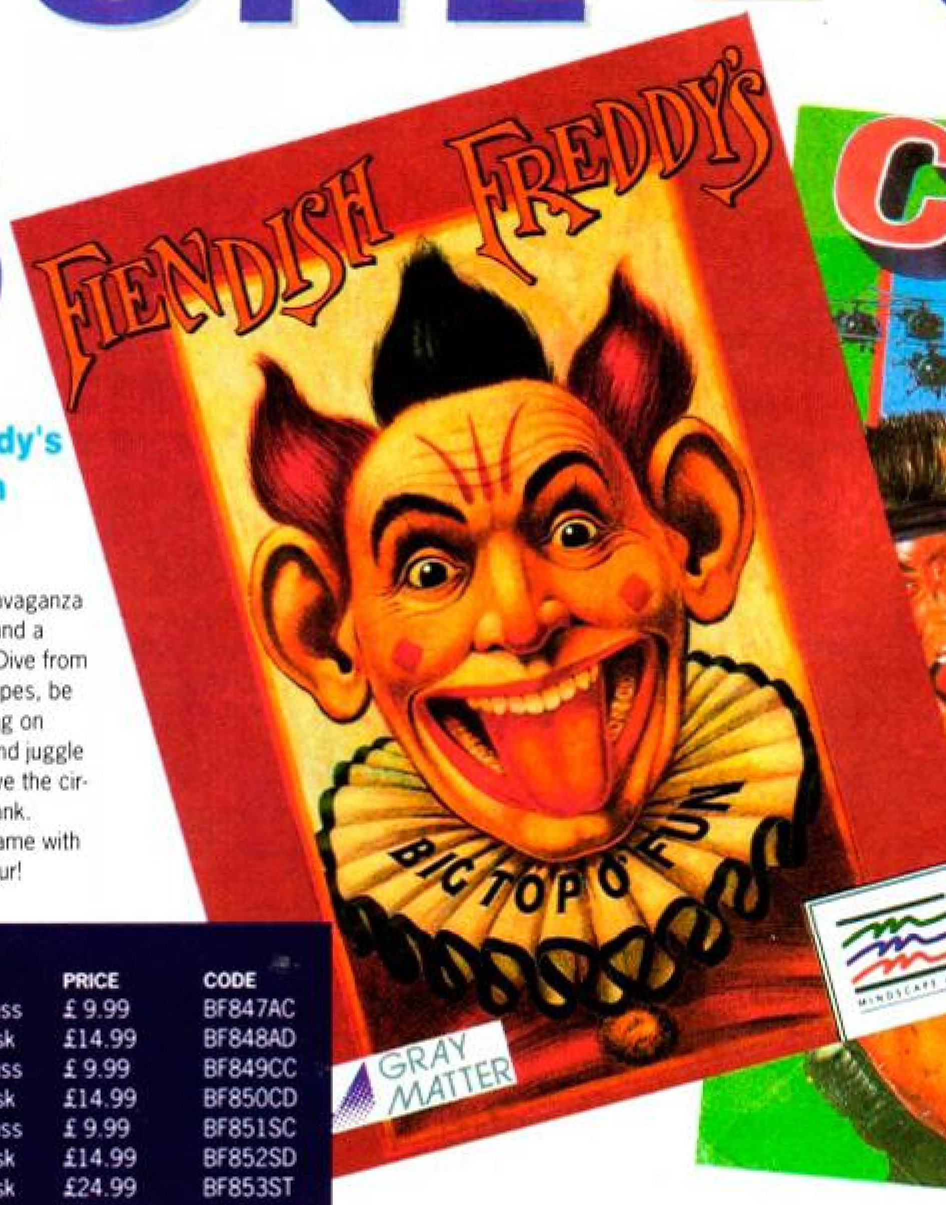
Fiendish Freddy's Big Top of Fun
from Mindscape

Mindscape's circus extravaganza brings you thrills, spills and a whole barrel o' laughs. Dive from high-boards, walk tightropes, be fired from cannons, swing on trapezes, throw knifes and juggle in a desperate bid to save the circus from the big bad bank.

An original multi-event game with a wicked sense of humour!

Fiendish Freddy

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Amiga	Disk	£24.99	BF854AM





2



Black Tiger
from U S Gold

US Gold have had major hits with Strider and Ghouls 'n' Ghosts. Now comes their latest horizontally-scrolling action game, Black Tiger.
In a similar fashion to Ghouls, the objective is to charge through horizontally-scrolling levels, climbing ladders and following red arrows to the end of the level. Along the way, fight ugly gargoyles, snakes and even deadly orchids using your powerful weaponry. When the going gets tough, disappear inside the shop, pick up some extra weapons, and go out for another merry blast.
If you're a fan of horizontally-scrolling action games, you'll love this one.

Black Tiger

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ET ONE FREE!

4



Cabal from Ocean

Go crazy in cartoonland with Cabal. A lone trooper, he's dropped behind enemy lines and must fight his way back home. Level after level must be cleared of buildings and bad guys with machine guns, grenades and bazookas. It looks like Operation Wolf for the under fives but plays like a vet.

Cabal

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Type ins

ADAM has some BASIC advice on writing those Type-Ins...

It's one thing submiting your programs to *Type-Ins*. It's another thing entirely getting them published! After all, we receive over 50 budding entries a month – and only have space to print around half a dozen or so. If you want to reach the dizzy heights of fame and (small) fortune then you've got to stand out from the crowd.

The first thing to consider is what sort of *Type-Ins* we're looking for. If it's something that's been done a million times before, the chances are that it won't get a second look. Try to tackle something that hasn't been done, or present it in a new and unusual way. Don't go too far, though. An obscure program that's no use to anybody except the person that wrote it doesn't stand much chance either.

On balance

We strive to achieve a good balance of programs in these pages. A mix of utilities, serious programs and games, with a tendency towards the more useful software. After all, while BASIC games listings can hardly be expected to match up to commercial quality, a disk utility could become an invaluable part of everyone's collection.

Utilities and serious software should first of all be genuinely useful. It must be clear as to what they do, as well! Above all, they must be user-friendly. If a program purports to make your life easier, then the last thing you want is something that's too difficult to use.

We get more games than anything else. So if *you've* written a game then you're up against the stiffest competition of all! If it's a two player game, then for goodness sake give a one-player option as well. A game like draughts or *Othello* should allow you to play both against the computer and another player. Using the computer as a dumb gameboard, by the way, is a fairly pointless exercise.

We occasionally print a silly listing, too. Graphical demos don't stand much chance unless they are exceptional. On the other hand, if they're short, they may get used as fillers. Nobody minds typing in ten lines for a program that's entertaining for ten minutes. No-one wants to spend all night typing in a program that does nothing, though.

Size isn't everything

We have limited space in these pages. In order to cram in as many listings as possible, the shorter the program the better. We generally limit a listings length to a maximum of 6K (which fills about a page if we use small type). Anything longer than that and it will have to be something really special to justify the extra space.

Obviously we don't want you to cut features from your listings, but we don't want them full of unnecessary garbage, either. Make them concise. REM statements are fine for helping others to understand your listing – just don't overdo it.

Presentation is a subject that has been aired before in these pages. It is by far the single most important aspect. If your program isn't particulary original then if you can make it grab us nonetheless, it's in with a chance.

If you can, make sure that the program works on all models of the CPC. Obviously, with a program that uses the 6128's extra memory problems are unavoidable, but with a simple games listing there's just no need. You're cutting the amount of people who will find your listing useful by half if it only works on one machine.

The final test

Finally, do make sure that your program works! Test your program thoroughly. Not only by yourself – you won't find all the bugs that way. Get a friend to sit down and use your program. It's the surest way to hunt down those bugs that lurk in your listing. Invite your pal to make constructive critisism – and more importantly, take note of it! If you don't find the bugs in your program, then you can bet your bottom dollar that someone will!

Anyway, that's enough lecturing – let's get on with the show!

A GOOD SEND OFF

Bear in mind that the less time we spend evaluating *Type-Ins* the more time we can spend writing your favourite magazine. Try and make our lives easier – we'll love you for it.

We accept *Type-Ins* on tape or 3-inch disk only. 3.5-inch and 5.25-inch disks are no good to us. Don't send us listings scrawled in crayon on a bit of toilet paper or the back of a cigarette packet (unless it's still got some in!). We simply don't have the time to type in and de-bug listings ourselves.

Although we accept both disk and tape contributions, if you have a disk drive then please send it on disk. It speeds things up enormously. There's nothing worse than receiving a disk-only utility program on tape.

If you want your tape or disk back then include a Self Addressed Envelope. We just don't have the time to write out the addresses here. We're far more bothered about having to write out envelopes than supplying the stamps, though, so don't worry about the return postage. When we've finished with the contributions, anything that doesn't come with an SAE is binned!

Finally, you must include documentation with the program. By this we don't mean an accompanying listing. We want instructions. Print them out if possible, but if you don't have a printer then please use your very best handwriting. Make your instructions clear. Include everything that you think is relevant, but don't waffle – you can safely leave that to us!

MINE

This simple game from Simon Tully of Brighton pits you against a minefield – and you have to get across in one piece! Unfortunately, the mine detector in your posession is a bit old-fashioned. It can tell you how many mines are nearby – but not exactly where. If only you'd bought the RX-101 model instead...

Move around using the Q, A, O and P keys. The number of mines can be changed by altering the number, initially 200, in line 60.

```
{IiAm} 10·DEFINT·a-z
{GnBj} 20·INK·0,0:BORDER·0:INK·1,26:INK·3,16
{IoBk} 30·ENV·1,15,-1,2:ENT·-1,5,2,1,10,-2,1
{AxAo} 40·x=20:y=25
{OjBw} 50·MODE·1:PEN·1:LOCATE·6,1:PRINT"Laying·
          mines·-·Please·wait.":INK·2,0
{JoBx} 60·PEN·2:FOR·i=1·TO·200:LOCATE·RND*40+1,
          RND*21+2:PRINT·CHR$(143);:NEXT
{KuCm} 70·LOCATE·6,1:PRINT·STRING$(30,32);:LOCATE·
          18,1:PEN·3:PRINT"HOME";:t!=TIME
{NxAx} 80·nm=0:px=x*16-8:py=(25-y)*16+8
{NmAw} 90·IF·TEST(px,py)=2·THEN·260
{GrBk} 100·PEN·1:LOCATE·x,y:PRINT·CHR$(249);
{EoBj} 110·IF·TEST(px-16,py)=2·THEN·nm=nm+1
{DqBj} 120·IF·TEST(px+16,py)=2·THEN·nm=nm+1
{PkBj} 130·IF·TEST(px,py+16)=2·THEN·nm=nm+1
{OmBk} 140·IF·TEST(px,py-16)=2·THEN·nm=nm+1
{KvAw} 150·LOCATE·1,1:PRINT·nm"mine(s)"
{FrBv} 160·a$=LOWER$(INKEY$):LOCATE·30,1:PRINT
           "Time:";INT((TIME-t!)/300);
{LkAt} 170·IF·a$=""·THEN·160
{LiBi} 180·PEN·3:LOCATE·x,y:PRINT·CHR$(143);
{CjBm} 190·x=x+(a$="o"·AND·x>1)-(a$="p"·AND·x<40)
```

```
{HqBi} 200·y=y+(a$="q")-(a$="a"·AND·y<25)
{BiAt} 210·IF·y=1·THEN·230
{AwAm} 220·GOTO·80
{HiBo} 230·LOCATE·12,1:PRINT"Congratulations!";
          :INK·2,10
{NtAt} 240·SOUND·1,200,200,15,,1
{HrAl} 250·GOTO·280
{DsCi} 260·LOCATE·15,1:PRINT"Your·dead!";:INK·2,10
          :SOUND·1,0,0,15,1,,30
{HxBq} 270·PEN·1:PAPER·2:LOCATE·x,y:PRINT·CHR$
          (249);:PAPER·0
{HnAu} 280·WHILE·INKEY$<>"·":WEND
{JxAl} 290·GOTO·40
```

MUSICFX

Simon Tully's second contribution is, in his own words, a two-octave amplitude and frequency modulated polyphonic synthesiser with rhythm generator.

Follow the prompts for octave, attack, decay, sustain and release parameters. You're also give the option to set modulation, wave type and rhythm. Experiment to find the funkiest notes.

The rhythm option allows you to add a backing beat, but the synth becomes monophonic if you use it. Tap out your rhythm and press Space to mark the repeat point. The rhythm will continually play, and additional peices can be added. Once you're satisfied, press X to get to the keyboard display and play away!

```
{NuBk} 10·TAGOFF:PRINT·CHR$(23)+CHR$(0);:GOTO·40
{DwBm} 20·IF·INKEY(79)=0·THEN·CALL·&BB45:RUN
{BtAn} 30·RETURN
{IlBl} 40·GOSUB·200:CALL·&BB48:EVERY·100·GOSUB·20
{DrBi} 50·EVERY·6,3·GOSUB·170:BC=0:WHILE·1
{JsDt} 60·CALL·40000:X=25-PEEK(40020):IF·X<>25·
          THEN·IF·X<>C(1)·AND·X<>C(2)·AND·X<>C(3)·
          THEN·GOSUB·110:IF·T·THEN·60
{HqFm} 70·FOR·W=1·TO·3-BT:IF·C(W)*INKEY(K(C(W)))=0·
          THEN·100·ELSE·PK=PEEK(45512+W*63+PL):
          IF·PK*RE·THEN·ENV·13,PK,-1,RE:SOUND·128+
          A(W),P(C(W)),0,PK,13,TN·ELSE·SOUND·
          128+A(W),0,1,0
{PxCj} 80·POKE·40020+C(W),K(C(W)):MOVE·CX(C(W)),
          CY(C(W)):PRINT·CHR$(143);
{CrAr} 90·L(W)=C(W):C(W)=0
{NjAm} 100·NEXT:WEND
{DoEr} 110·IF·X=L(1)·AND·C(1)=0·THEN·T=1:GOTO·130·
          ELSE·IF·X=L(2)·AND·C(2)=0·THEN·T=2:GOTO·
          130·ELSE·IF·X=L(3)·AND·C(3)=0·THEN·
          T=3:GOTO·130
{HvAs} 120·T=F:F=M:M=L:L=T
{FwAt} 130·IF·BT·THEN·T=1
{LwAx} 140·IF·C(T)·THEN·T=0:RETURN
{CtBi} 150·SOUND·128+A(T),P(X),10000,0,15,TN
{FnBx} 160·C(T)=X:POKE·40020+X,0:MOVE·CX(X),CY(X):
          PRINT·CHR$(143);:RETURN
{LxDv} 170·IF·NO(BC)<>0·THEN·BORDER·NO(BC)*2:SOUND
          ·4+128,TN(NO(BC)),0,0,EV(NO(BC)),
          ET(NO(BC)),NS(NO(BC))·ELSE·BORDER·0
{OlAx} 180·BC=BC+1:IF·BC>NO·THEN·BC=0
{AtAn} 190·RETURN
{ErCm} 200·DEFINT·A-Z:DIM·P(24),K(24),CX(24),
          CY(24),CH$(24):A(1)=1:A(2)=2:A(3)=4
{NvBk} 210·SYMBOL·255,24,24,24,24,24,24,24,24
{OvCp} 220·RESTORE·480:MEMORY·39999:FOR·I=0·TO·
          22:READ·A$:POKE·I+40000,VAL("&"+A$):NEXT
{NmBt} 230·RESTORE:FOR·X=1·TO·24:READ·K(X):POKE·
          40020+X,K(X):NEXT
{CuCn} 240·PRINT·CHR$(23)CHR$(0);:MODE·2:WHILE·
          INKEY$<>"":WEND:INPUT"Octave·(-3·
          TO·+3)";O
{DmBu} 250·FOR·N=1·TO·24:P(N)=62500/
          (440*(2^(O+((N-10)/12)))):NEXT
{ElAx} 260·INPUT"Attack·rate·(0-255)";AT
{AoAw} 270·INPUT"Decay·rate·(0-255)";DE
{LtBn} 280·INPUT"Sustain·volume·(0-15)";TE:
          SUS=15-TE
{AjAx} 290·INPUT"Release·rate·(0-255)";RE
{KuFi} 300·F=1:M=2:L=3:IF·AT=0·THEN·ENV·15,
          SUS,-1,DE:IF·DE=0·THEN·ENV·15,0,TE,1·
          ELSE·ENV·15,0,15,1,SUS,-1,DE·ELSE·IF·
          DE=0·THEN·ENV·15,15,1,AT,0,TE,1·ELSE·
          ENV·15,15,1,AT,SUS,-1,DE
{AkCt} 310·INPUT·"Modulation·(Y/N)";YN$:IF·UPPER$
          (YN$)="N"·THEN·TN=0:GOTO·360·ELSE·TN=15
{JmBl} 320·INPUT·"Speed·of·modulation(1-255)";SP
{FiBl} 330·INPUT·"[S]quare·or·[T]riangle";TR$
{MkBj} 340·INPUT·"Amplitude·of·modulation";AM
{JsCq} 350·IF·UPPER$(TR$)="S"·THEN·ENT·-15,1,AM,
          SP,1,-AM,SP·ELSE·ENT·-15,AM,1,SP,
          AM,-1,SP
{IlBs} 360·INPUT·"[1]·464····[2]·6128";IN$:IF·
          IN$="1"·THEN·PL=868
{HiCj} 370·INPUT·"Rhythm·(Y/N)";RY$:IF·UPPER$
          (RY$)="Y"·THEN·BT=2:GOSUB·510
{JkBq} 380·MODE·1:WINDOW·#1,1,80,12,22:PAPER·#1,1:
          CLS·#1
{AqBo} 390·LOCATE·10,1:PRINT"Hold·delete·to·exit."
{IsBu} 400·FOR·I=0·TO·640·STEP·45.7:MOVE·I,32:
          DRAW·I,224,0:NEXT
{BxDx} 410·TAG:FOR·I=25·TO·620·STEP·45.7:IF·I=117·
          OR·I=301·OR·I=439·THEN·420·ELSE·FOR·
          K=144·TO·224·STEP·16:MOVE·I+6,K:
          PRINT·CHR$(255)"·";:NEXT
{MtAj} 420·NEXT
{NiGq} 430·INK·2,11:RESTORE·490:PLOT·650,0,1:
          TAGOFF:PRINT·CHR$(23)CHR$(1);:TAG:
          FOR·I=1·TO·24:READ·CX(I),CY(I),CH$
          (I),N$:CX(I)=CX(I)-4:PLOT·650,0,1:
          MOVE·CX(I),CY(I):PRINT·CH$(I);
          :IF·N$<>""·THEN·PLOT·650,0,2:MOVE·
          CX(I),CY(I)-20:PRINT·N$;
{ImAr} 440·NEXT:PLOT·650,0,1
{DnAo} 450·RETURN
{FiBn} 460·DATA·71,60,63,61,62,55,52,54,44,46,45,38
{DkBn} 470·DATA·59,57,58,56,50,51,48,43,41,42,40,35
{OqBp} 475·'Machine·code·-·Save·program·before·
            running
{EuCn} 480·DATA·06,18,11,55,9C,1A,CD,1E,BB,20,03,
          13,10,F7,ED,43,53,9C,C9,00,00,00,00
{OnDw} 490·DATA·18,90,Z,C,42,180,S,,64,90,X,D,
          88,180,D,,110,90,C,E,156,90,V,F,180,
          180,G,,202,90,B,G,226,180,H,,248,90,N,A,
          272,180,J,,294,90,M,B
{LkEk} 500·DATA·340,90,W,C,364,180,3,,386,90,E,D,
          410,180,4,,432,90,R,E,478,90,T,F,502,
          180,6,,524,90,Y,G,548,180,7,,570,90,
          U,A,594,180,8,,616,90,I,B
{OxAp} 510·BT=2:GOSUB·720
{LtCo} 520·NO=1000:DIM·NO(NO):FL=0:MODE·2:FOR·I=1·
          TO·12:PRINT·TAB(20)CHR$(64+I)"="NA$
          (I):NEXT
{BqCo} 530·PRINT:PRINT"SPACE·to·start·repeat":
          PRINT"x·to·exit":PRINT"q·to·quit"
{JmBv} 540·PRINT"-·to·clear":PRINT";(+)·to·
          practice·(When·ready·use·-)"
{GlAv} 550·LOCATE·1,1:PRINT"READY"
{HxBp} 560·A$=UPPER$(INKEY$):IF·A$=""·THEN·560
{IuBo} 570·N=ASC(A$)-64:IF·N<13·AND·N>=0·THEN·
          NO(0)=N
{LvAt} 580·LOCATE·1,1:PRINT"······"
{KoBi} 590·FOR·I=0·TO·NO:A$=UPPER$(INKEY$)
{LlAq} 600·FOR·ZX=0·TO·50:NEXT
{MwAu} 610·IF·A$=""·THEN·630
{EtCm} 620·IF·A$<>""·THEN·N=ASC(A$)-64:IF·N<13·
          AND·N>0·THEN·NO(I)=N·ELSE·670
{KnDv} 630·IF·NO(I)<>0·THEN·BORDER·NO(I)*2:SOUND·
          4+128,TN(NO(I)),0,0,EV(NO(I)),
          ET(NO(I)),NS(NO(I)):LOCATE·1,2:
          PRINT·I"··"·ELSE·BORDER·0
{BxAr} 640·IF·FL·THEN·NO(I)=0
{KmAs} 650·FOR·j=1·TO·100:NEXT
{KwCn} 660·LOCATE·1,1:PRINT·I"··":NEXT:IF·N=-19·
          THEN·ERASE·NO:GOTO·520·ELSE·GOTO·590
{EiBm} 670·IF·N=-32·THEN·TE=NO:NO=I:I=TE:GOTO·630
{FkAu} 680·IF·N=-5·THEN·FL=1:GOTO·630
{AuAv} 690·IF·N=24·THEN·RETURN
{KqBl} 700·IF·N=17·THEN·ERASE·NO:DIM·NO(NO):RETURN
{AuBp} 710·IF·N=-19·THEN·I=30000:GOTO·660·ELSE·630
{KvBp} 720·ENT·1,1,-100,1,5,25,3:ENT·-2,1,-75,1,
          4,25,3
{CsBw} 730·ENT·-3,1,4,2,1,-8,2,1,4,2:ENT·-4,4,4,
          1,4,-4,1·
{EtBn} 740·ENV·1,1,15,2,5,-3,4:ENV·2,1,15,1,15,-1,2
{DqBs} 750·ENV·3,1,15,1,4,-2,2,7,-1,4:ENV·4,7,2,1,
          14,-1,4
{MjBr} 760·ENV·5,1,15,1,15,-1,8:ENV·6,2,7,1,1,0,
          20,14,-1,10
{FtBo} 770·ENV·7,1,15,1,15,-1,4:ENV·8,1,15,1,4,-3,
          3,1,-3,1
{OnDq} 780·DIM·TN(12),EV(12),ET(12),NS(12),NA$(12):
          RESTORE·800:FOR·I=1·TO·12:READ·TN(I),
          EV(I),ET(I),NS(I),NA$(I):NEXT
{IpAn} 790·RETURN
```

WIN A TON!

Yes, that right. After months of delicate negotiations with the Editor we have now got £100 to give away per month to *Type-Ins* contributors (You can take the thumbscrews off him now). This is split between the authors of all the listings. We divide the dosh in order of the programs' merit. A fully-fledged accounts package is likely to earn more than a ping-pong listing, and deservedly so.

Unfortunately, we can't offer cash prizes to overseas readers. Rod got fed-up with queuing at the Post Office for foreign money orders. Rest assured, though, you'll get a little something for your trouble...

OH BLAST!

It seems that gremlins attacked last month's *Type-Ins* pages. The little blighters took out three vital lines from the *Tunegen* listing. Users found that they could compose the tunes – but couldn't save their masterpieces once they had.

The missing lines go something like this...

```
{GnAr} 1190·POKE·&803B,tempo
{NqBl} 1200·SAVE"tune",b,&8020,length+148
{ItAw} 1210·PRINT:PRINT·"START=&8020"
```

```
{ImAv} 800·DATA·0,1,0,15,WOODBLOCK
{ApAu} 810·DATA·18,5,3,13,GURIO
{LwAt} 820·DATA·80,3,0,0,COWBELL
{IsAq} 830·DATA·0,8,0,1,HI-HAT
{IxAs} 840·DATA·0,7,0,1,CYMBAL
{OkAt} 850·DATA·200,3,2,13,SNARE
{GtAs} 860·DATA·480,1,2,10,TOM4
{GrAt} 870·DATA·375,1,2,15,TOM3
{EqAu} 880·DATA·325,1,2,6,TOM2
{KxAq} 890·DATA·240,1,2,3,TOM1
{ClAw} 900·DATA·800,3,1,31,BASSDRUM
{BuAt} 910·DATA·0,1,0,9,HAND·CLAP
```

TWISTER

This short graphical demo has chugged its way from across the oceans and over the seas by tea clipper from New Zealand. Colin Young of Hamilton came up with the program. It is a delight to watch.

```
{MlAm} 1·'·Twister
{KmAp} 2·'·1990·Colin·Young·
{NtAo} 3·'·66·Te·Aroha·St
{JiAn} 4·'·Hamilton
{AlAo} 5·'·New·Zealand
{FvAj} 6·'
{EwAl} 10·MODE·1
{IjAp} 20·d=10:k=100
{KtBj} 30·INPUT"Scroll·Up·(U)·or·Down·(D)·";a$
{MwBp} 40·IF·LEFT$(UPPER$(a$),1)="U"·THEN·
          d=11:k=300
{CtAk} 50·CLS
{CrAo} 60·ORIGIN·320,k
{PmAo} 70·PRINT·CHR$(d);
{HwBl} 80·DRAW·180*COS(c*2),180*COS(c/0.75)
{MkAn} 90·c=c+0.05
{CvAn} 100·MOVE·x,x
{IpAo} 110·x=COS(c)*45
{MsAm} 120·GOTO·70
```

BOUNCE

● 6128 only

Jonathan Dean, a Sutton Coldfield resident, brings you this rather jumpy little game. Guide your bouncing ball around the screen collecting gems. Better avoid those rather nasty-looking red mines, though. The game can be played with either the cursor keys or a joystick. Left and right move you, er, left and right, while up gives you a bit more bounce.

Before you run the listing, a file called 'HISCORES' needs to be saved to disk. This can be done by typing:

```
name$="Jonny":hiscore=31:OPENOUT"HISCORES":WRITE#9,
name$,hiscore:CLOSEOUT
```

```
{NqAo} 10·REM·***bounce***
{JvAp} 20·REM·*BY··J.DEAN*
{MuAq} 30·REM·****1990****
{AqAq} 40·REM·*INITIALISE*
{BkAl} 50·MODE·1
{CkEj} 60·INK·0,0:INK·1,26:INK·2,6:INK·3,26,18:
          BORDER·0:scr=0:nd=10:ENV·1,15,-1,1:
          ENV·2,15,-1,4:ENV·3,15,-1,8:SPEED·
          INK·4,4:hiscore=0:name$=""
{HnAq} 61·OPENIN·"hiscores"
{IoAv} 62·INPUT#9,name$,hiscore
{JsAm} 63·CLOSEIN
{CvAq} 70·GRAPHICS·PEN·1
{NkAn} 80·FOR·a=1·TO·200
{EnAs} 90·LET·v=INT(RND(1)*640)
{HlAr} 100·LET·f=INT(RND(1)*400)
{PxBt} 110·IF·v>76·AND·v<562·AND·f>78·AND·f<320·
          THEN·GOTO·90
{BuAm} 120·PLOT·v,f
{KmAk} 130·NEXT
{IkAu} 134·IF·SCR>HISCORE·THEN·830
{PsAs} 135·scr=0:nd=10:lives=3
{AxDx} 136·IF·lives<0·THEN·PEN#2,3:LOCATE#2,11,7:
          PRINT#2,"GAME·OVER!":LOCATE#2,10,9:
          PRINT#2,"YOU·SCORED";SCR:FOR·J=1·TO·
          4000:NEXT·J:GOTO·134
{DrAr} 140·SYMBOL·AFTER·230
{DxBp} 150·SYMBOL·231,0,60,126,126,126,126,60,0
{AjBp} 160·SYMBOL·232,126,255,195,219,219,195,
          255,126
{NoAw} 170·SYMBOL·234,0,0,12,4,0,0,0,0
{AnBn} 180·SYMBOL·235,24,60,126,255,255,126,60,24
{LtBp} 190·LET·x=312:LET·y=192:LET·x1=x:LET·y1=y:
          LET·yp=-1:LET·sc=0
{KmAu} 200·LET·ym=1:LET·xa=0:LET·ya=0·
{CvAq} 210·DIM·P(30,15)
{OwAq} 220·GRAPHICS·PEN·1
{EtAp} 230·REM·****SET****
{KpAl} 235·TAGOFF
{AkAp} 240·REM·**SCREEN!**
{DxBl} 250·WINDOW#2,6,35,6,21:PEN#2,3:CLS#2
{NqAv} 260·WINDOW#3,5,35,22,25
{GpAs} 265·WINDOW#4,6,35,6,20
{JoAx} 270·LOCATE·17,2:PRINT·"BOUNCE"
{MpAx} 280·LOCATE·17,3:PRINT·"------"
{EjBv} 290·MOVE·1,1:DRAW·1,399:DRAW·639,399:DRAW·
          639,1:DRAW·1,1
{AnBw} 300·MOVE·76,78:DRAW·76,320:DRAW·562,320:
          DRAW·562,78:DRAW·76,78
{IqBi} 310·LOCATE#3,2,2:PRINT#3,"SCORE="
{AkBr} 315·LOCATE#3,12,2:PRINT#3,"HISCORE·=·";
          NAME$;HISCORE
{GwBj} 317·LOCATE·30,3:PRINT·"LIVES=";lives
{GwAq} 320·REM·****GEMS****
{EuAp} 330·FOR·A=1·TO·5
{AnAt} 340·LET·B=INT(RND(1)*30+1)
{PmAs} 350·LET·C=INT(RND(1)*10+6)
{PoAx} 360·IF·P(B,C)=1·THEN·GOTO·340
{FsAp} 370·LET·p(b,c)=2
{HpBl} 380·PEN#2,1:LOCATE#2,B,C:PRINT#2,CHR$(235)
{OmAk} 390·NEXT
{JmAq} 400·REM·***DEATH***
{NtAo} 410·FOR·A=1·TO·nd
{LiAs} 420·LET·B=INT(RND(1)*30+1)
{PqAr} 430·LET·C=INT(RND(1)*15+1)
{PlBm} 440·IF·P(B,C)=1·OR·P(B,C)=2·THEN·GOTO·420
{MlBm} 450·IF·B=15·OR·B=14·OR·B=16·THEN·GOTO·420
{NnBn} 460·PEN·#2,2:LOCATE#2,B,C:PRINT#2,CHR$(232)
{ImAk} 470·NEXT
{CrAp} 480·REM·*THE·GAME!*
{MmAk} 490·TAG
{IxAm} 495·FRAME
{EoCi} 500·GRAPHICS·PEN·1:MOVE·x1,y1:PRINT·"·";:
          MOVE·x,y:PRINT·CHR$(231);
{NuAo} 510·LET·X1=X:LET·Y1=Y
{GqBn} 515·IF·INKEY(27)=0·THEN·GOTO·516·ELSE·517
{GwBr} 516·IF·INKEY$=""·OR·INKEY(27)=0·THEN·GOTO·
          516
{GuBo} 517·IF·INKEY(69)=0·THEN·GOTO·518·ELSE·519
{GtAu} 518·LIVES=-1:ERASE·P:GOTO·136
{MtAo} 519·LET·X1=X:LET·Y1=Y
{MqAn} 520·LET·ft=scr
{IqDm} 530·IF·TEST(X+16,Y+1)=1·THEN·scr=scr+1:
          sc=sc+1:LOCATE#2,INT((x+16)/16)-4,
          INT(((y+1)/16)-25)*(-1)-5:PRINT#2,"·";·
{FmDp} 540·IF·TEST(x+16,y-16)=1·THEN·scr=scr+1:
          sc=sc+1:LOCATE#2,INT((X+17)/16)-4,
          INT(((Y-16)/16)-25)*(-1)-5:PRINT#2,"·";
{PqDm} 550·IF·TEST(X-1,Y+1)=1·THEN·SCR=SCR+1:
          sc=sc+1:LOCATE#2,INT((X-1)/16)-4,
          INT(((Y+1)/16)-25)*(-1)-5:PRINT#2,"·";
{DoDl} 560·IF·TEST(x-1,y-16)=1·THEN·scr=scr+1:
          sc=sc+1:LOCATE#2,INT((x-1)/16)-4,
          INT(((y-16)/16)-25)*(-1)-5:PRINT#2,"·";
{NsCx} 570·IF·TEST(x-1,y-8)=1·THEN·scr=scr+1:
          sc=sc+1:LOCATE#2,INT((x-1)/16)-4,
          INT(((y-8)/16)-25)*(-1)-5:PRINT#2,"·";
{EuDo} 580·IF·TEST(x+8,y-16)=1·THEN·scr=scr+1:
          sc=sc+1:LOCATE#2,INT((x+1)/16)-4,
          INT(((y-16)/16)-25)*(-1)-5:PRINT#2,"·";
{OkDk} 590·IF·TEST(x+16,y-8)=1·THEN·scr=scr+1:
          sc=sc+1:LOCATE#2,INT((x+16)/16)-4,
          INT(((y-8)/16)-25)*(-1)-5:PRINT#2,"·";
{InDn} 600·IF·TEST(x+8,y+1)=1·THEN·scr=scr+1:
          sc=sc+1:LOCATE#2,INT((x+8)/16)-4,
          INT(((y+1)/16)-25)*(-1)-5:PRINT#2,"·";
{HrBk} 610·IF·ft<scr·THEN·SOUND·1,30,60,15,2
{HxBx} 620·IF·sc>3·THEN·nd=nd+2:ERASE·p:TAGOFF:
          FOR·a=1·TO·500:NEXT·a:GOTO·140
{CrGp} 630·IF·TEST(X+16,Y+1)=2·OR·TEST(X-1,Y+1)=
          2·OR·TEST(X-1,Y-16)=2·OR·TEST(X+16,
          Y-16)=2·THEN·GRAPHICS·PEN·3:MOVE·x1,y1:
          PRINT·CHR$(238);:GRAPHICS·PEN·1:
          SOUND·1,956,120,15,3,,31:lives=
          lives-1:FOR·a=1·TO·500:NEXT·a:ERASE·p:
          GOTO·136
{EuBl} 640·IF·yp>0·THEN·yp=yp/2:LET·y=y+yp:GOTO·660
{HlAt} 650·LET·yp=2*yp:LET·y=y+yp
{KwAn} 660·LET·x=x+xa
{BiBr} 670·IF·X<80·THEN·X=80:XA=-XA:SOUND·1,213,15,
          15,1
{KoBr} 680·IF·X>544·THEN·X=544:XA=-XA:SOUND·1,
          213,15,15,1
{LqAw} 690·IF·Y>319·THEN·Y=319:YP=-YP
{KpAw} 700·IF·yp<1·AND·y>y1·THEN·yp=-yp
{LoCo} 710·IF·y<96·THEN·y=96:yp=-yp:LET·xa=0:
          SOUND·1,239,15,15,1:GOSUB·760
{LjAl} 720·TAGOFF
{DkAk} 730·TAG
{JqAt} 740·LOCATE#3,8,2:PRINT#3,scr
{DkAm} 750·GOTO·500
{ArBo} 760·IF·INKEY(74)=0·OR·INKEY(8)=0·THEN·XA=-5
{DiBm} 770·IF·INKEY(75)=0·OR·INKEY(1)=0·THEN·XA=5
{NjBu} 780·IF·INKEY(72)=0·OR·INKEY(0)=0·THEN·
          YM=1.5·ELSE·YM=0.5
{MrAp} 790·LET·yp=yp*ym
{EwAt} 800·IF·yp>160·THEN·yp=160
{EmAu} 810·IF·yp<20·THEN·yp=20
{BkAn} 820·RETURN
{EuDx} 830·CLS#4:CLEAR·INPUT:LOCATE#2,6,5:PEN#2,1:
          PRINT#2,"PLEASE·ENTER·YOUR":
          LOCATE#2,11,7:PRINT#2,"NAME:":
          LOCATE#2,8,9:INPUT#2,NAME$:CLS#4
{BqBk} 840·IF·LEN(NAME$)>5·THEN·GOTO·830
{DvCt} 850·HISCORE=SCR:|ERA,"HISCORES":OPENOUT·
          "HISCORES":WRITE#9,NAME$,HISCORE:
          CLOSEOUT
{AoAm} 860·GOTO·135
```

BANKSWOP

● 6128 only

Ever felt the urge to have four BASIC listings in memory at once and to be able to swap between them at will? Have you spent many a restless night fretting that it was impossible? Well, N Little from Sheffield has come up with an ace little utility that allows you to have four BASIC listings in memory simultaneously. Now if that's not a coincidence, well, I don't know what is.

The four proggies can each be up to 16K in length. The command |BANK,x swaps between them. When initiated bank 1 is selected. On execution of the |BANK command, the BASIC program is saved into the currently selected bank. Then the new BASIC program is loaded from the new bank. The four banks are numbered one to four. Now that's user-friendly for you.

```
{MsCj} 10·DATA·21,99,90,01,0D,90,CD,D1,BC,CD,5C,90,
        C9,12,90,C3,16,90,42,41,952
{JjBx} 20·DATA·4E,CB,DD,7E,00,FE,05,D2,63,90,C6,C3,
        21,52,90,57,7E,72,01,00,910
{IsCl} 30·DATA·7F,ED,79,E5,C5,AF,21,70,01,11,00,40,
        01,00,3E,ED,B0,C1,E1,7E,91D
{OwCj} 40·DATA·ED,79,AF,21,00,40,11,70,01,01,00,
        3E,ED,B0,3E,C0,01,00,7F,ED,73F
{EuCm} 50·DATA·79,C9,C4,7E,23,B7,C8,CD,5A,BB,18,
        F7,21,6A,90,CD,53,90,C9,21,ACC
{JwCk} 60·DATA·8A,90,CD,53,90,C9,0A,0D,42,41,53,
        49,43,20,42,41,4E,4B,20,53,6BB
{BwCl} 70·DATA·57,4F,50,2E,4E,2E,4C,49,54,54,4C,
        45,20,31,39,39,30,00,0A,0D,478
{BkBx} 80·DATA·4E,4F,20,53,55,43,48,20,42,41,4E,
        4B,00,5E,A5,0D,90,00,00,00,4CC
{OqAm} 90·add=&9000
{FuAo} 100·FOR·b=1·TO·8
{NlAl} 110·ch=0
{FnAp} 120·FOR·a=0·TO·19
{BnAn} 130·READ·a$
{FqAw} 140·POKE·add,VAL("&"+a$):add=add+1
{FpAs} 150·ch=ch+VAL("&"+a$)
{FsAk} 160·NEXT
{OsAo} 170·READ·chek$
{FkBu} 180·IF·VAL("&"+chek$)<>ch·THEN·PRINT·
        "Error·in·line·:";b*10···
{BiAk} 190·NEXT
{PiAl} 200·MODE·2
{IrAo} 210·CALL·&9000
{MjAl} 220·PRINT
{OsAo} 170·READ·chek$
{FkBu} 180·IF·VAL("&"+chek$)<>ch·THEN·PRINT·
        "Error·in·line·:";b*10···
{BiAk} 190·NEXT
{PiAl} 200·MODE·2
{IrAo} 210·CALL·&9000
{MjAl} 220·PRINT
{ImAl} 230·PRINT
{AiCl} 240·PRINT·"New·command·|BANK,bank···When·
        first·called·bank·1·is·selected"··
{EnCw} 250·PRINT·"When·another·bank·is·selected·
        the·current·program·is·saved·and·the·
        one·in·the"
{ItBk} 260·PRINT·"selected·bank·loaded·in."·
```

{What are these funny codes}? And·what·are·these·blinkin'·dots?

You may well ask! As a matter of fact, it's all part of *AA*'s drive to make *Type-Ins* as foolproof as possible. You see you don't type in that strange four-letter code at the beginning of each line in *Type-Ins*! They are special checksum codes designed to make your life easier. All you need is the short *Type-Writer* listing printed below, which produces those magical codes for you.

Type-Writer works by producing a code based on all the characters in a line of BASIC. This code is printed every time the computer encounters a 'Return'. After you have RUN *Type-Writer* the computer will produce these checksums indefinitely. *Type-Writer* doesn't need to be retained in memory. In fact, it is always wise to get rid of it with 'NEW' before you start to enter the listing – you don't want it to become part of the program you're typing in! Compare the codes with those printed in the magazine (yours will appear at the end of each line, but we put them at the start for clarity).

If they are the same then all is well, and you'll be able to sleep at nights. If they're different, then what you've typed is not the same as we've printed, and your typing is at fault.

When you get these conflicting checksums, don't panic! EDIT the line and check it for differences. Remember that *Type-Writer* is very sensitive and can detect swapped characters and embeded spaces in lines. Also take note of similar-looking characters. The letter 'l' can look deceptively like the number '1' in listings. When you find your typo then ammend the line to read like the one printed. *Type-Writer* will now give a correct report.

Type in the following listing and save it. If you get a data error when you run the program then check out lines 200-310. Once everything is hunky-dory and it seems to run OK then you can put it to its first real test. List the program. After every line of the listing a checksum should appear, and it should be identical to those that appear in these pages.

```
{LxAn} 10·'Type-Writer
{NkBj} 20·'Public·Domain,·by·Pat·McDonald
{BqAw} 30·'Amstrad·Action·June·1989
{HiBp} 40·flag=0:PRINT:INPUT"Am·I·a·464·(Daft·
        question!)":h$
{IsBj} 50·a=HIMEM-93:MEMORY·a-1:RESTORE·200
{PjAr} 60·FOR·b=a·TO·a+&5D
{ArAv} 70·READ·c$:d=VAL("&"+c$)
{AsAr} 80·POKE·b,d:e=e+d
{IqAl} 90·NEXT·b
{JmBu} 100·IF·e<>10566·THEN·PRINT"Error·in·data.
        ·Please·Check.":END
{KuBs} 110·IF·LEFT$(h$,1)="y"OR·LEFT$(h$,1)="Y"THEN
        ·POKE·a+8,&A4
{AkAo} 120·z=a+34:e=0
{AlAs} 130·f=ABS(INT(z/256))
{DwAq} 140·g=ABS(((z/256)-f)*256)
{NqAx} 150·POKE·a+40,g:POKE·a+41,f:POKE·a+45,g
{CtBm} 160·POKE·a+46,f:POKE·a+57,g:POKE·a+58,f
{NkBi} 170·POKE·a+65,g:POKE·a+66,f:POKE·a+77,g
{LxAx} 180·POKE·a+78,f:POKE·a+85,g:POKE·a+86,f
{FiAu} 190·POKE·a+90,g:POKE·a+91,f
{JmAv} 200·DATA·e5,c5,f5,fe,0d,20,18,21
{NpBi} 210·DATA·8a,ac,01,00,06,51,59,7e
{ClAw} 220·DATA·fe,00,28,11,47,81,10,fd
{ErAv} 230·DATA·4f,eb,09,eb,23,18,f0,f1
{PrAv} 240·DATA·c1,e1,cf,fe,93,3e,20,cd
{GvAx} 250·DATA·22,90,3e,7b,cd,22,90,7b
{KvAt} 260·DATA·07,07,07,07,e6,0f,c6,41
{CxAv} 270·DATA·cd,22,90,7b,e6,0f,c6,69
{ExAv} 280·DATA·cd,22,90,7a,07,07,07,07
{KvAu} 290·DATA·e6,0f,c6,41,cd,22,90,7a
{IpAv} 300·DATA·e6,0f,c6,69,cd,22,90,3e
{JrBj} 310·DATA·7d,cd,22,90,18,c1,4d,61
{NuAl} 320·g=g-34
{GkBm} 330·IF·flag=0·THEN·flag=1·ELSE·GOTO·370
{DvBo} 340·POKE·a+35,PEEK(&BB5B):POKE·a+36,PEEK(&BB
        5C)
{CsBo} 350·POKE·&BB5A,&C3:POKE·&BB5B,g:POKE·
        &BB5C,f
{FwAm} 360·GOTO·50
{DpBp} 370·POKE·a+35,PEEK(&BD2C):POKE·a+36,PEEK
        (&BD2D)
{IqBn} 380·POKE·&BD2B,&C3:POKE·&BD2C,g:POKE·
        &BD2D,f
```

And the dots...

DON'T go looking for 'dots' on your keyboard when you're typing in these listings. All they're there for is to indicate spaces. We do this because if you don't get the spaces right it can cause syntax errors and all sorts of other nasties. Also, where the author has written REM statements or is centering text on the screen, it's not always easy to tell how many spaces they've used. And even though getting something like that wrong won't crash the program, it'll still give you the wrong code at the start of the line and make you *think* you've typed something wrong. All clear now?

And finally

There are two major typing errors to look out for. It's all to easy to mistake the number '1' for the letter 'l' and vice versa. Also, check letter 'O's and number '0's carefully. These are often at the root of wrong codes or crashed programs.

Good typing!

Cheat mode

Hacking PHIL HOWARD rips into another lorryload of games

An absolutely whopping *Cheat Mode* this month with five pages crammed with gamesplaying hints, tips and pokes – including a complete map for *Fantasy World Dizzy*!

KEYPRESS CHEATS

The excellent and prolific Andrew Price of Dunstable has been doing a vast amount of work on your behalf this month and come up with some real cracking keypress cheats. His first conquest is *Turbo Chopper Simulator* – pause the game by pressing CTRL, then to enter the cheat mode press the "M", "B", and "1" keys together. You now have infinite lives. Also, from now on, by pressing CTRL followed by ESC you can advance a level.

Next, Andy turned his attentions to Codemasters' Cartoon Time adventure, *Little Puff*, and has found the ultimate keypress routine. Pressing the keys "E", "A", "D", "B", "X", "N", "M", and "<" all together will get you into the cheat mode and give your little dragon invulnerability. By pressing [SHIFT] plus the arrow keys you can move location. *Pause "DEL" then "F4", "F5" and "LEFT* ARROW" will change the background colour (great for green screens), Alternatively "F4", "F5" and "COPY" will alter the border colour. Phew!

what more could you possibly need?
Back in issue 23 there was a keypress cheat for Codemasters' *Grand Prix Simulator*. The game is still popular and Andy has reminded us that to play any of the tracks all you need to do (on the title screen) is type TRACK followed by your selection A to M. Apparently it's worth typing the following words into the hi-score table (If you can get a hi-sco*re!) COMPLEX, CHEAT, HELP, PANDA, SPECTRUM, SOMEBODYTRACK, HEREROBIN.



Pretty wonderful stuff, these keypress cheats are considerably more difficult to locate than ordinary pokes, Well done Andy! Once again *the Price* appears to be right!

Ikari Warriors

Carl Surry has produced a poke for this "two man and their tank" oldie, re-released on the Encore label; remove any features you can do without. Carl also produces a fine newsletter, get in touch at the address below. Tanks Carl!

```
{BoAq} 1 ' Ikari Warriors Tape
{FrAj} 2 '
{CoAp} 3 ' Carl Surry
{PaAr} 4 ' 37 Fairfield Way
{NkAl} 5 ' BARNET
{PjAl} 6 ' Herts
{PxAk} 7 ' EN5 2BQ
{FxAl} 8 '
{OpAr} 10 MODE 0:FOR i=0 TO 15
{BxAu} 20 READ x:INK i,x:NEXT
{IjAm} 30 BORDER 2
{GkAv} 40 DATA 13,6,3,15,16,0,1,2,14
{OtAw} 50 DATA 26,24,9,12,21,22,19
{NrAr} 60 OPENOUT "W":MEMORY 4799
{IsAq} 70 LOAD"!screen.bin
{DvAr} 80 LOAD"!warriors
{HoAm} 90 'Pokes
{MsAr} 100 'Infinite bullets
{EuAq} 110 POKE &6820,&B7
{LjAt} 120 'Infinite grenades
{OjAo} 130 POKE &6896,&B7
{DqAo} 140 'Immortality
{KxAo} 150 POKE &6A38,&18
{FsAp} 160 CALL &FFD0
```

● Multiface pokes for Ikari Warriors

ADDRESS	POKE	EFFECT
5960	B7	Inf. bullets.
59D8	B7	Inf. grenades.
5B78	18	Invulnerability.



Bombfusion

There are a healthy number of bouncing games in this months crop of cheats. This defusing poke is by Dunstable's Andy Price and works on the tape version of Mastertronic's explosive game.



```
{NnAo} 1 ' Bombfusion
{JsAq} 2 ' by Andrew Price
{BxAq} 3 ' Amstrad Action
{ExAs} 4 ' Infinite lives
{NvAs} 10 DATA 21,66,3B,06,0D
{DvAr} 20 DATA AF,77,05,B0,28
{GwAs} 30 DATA 03,23,18,F7,3E
{LjAr} 40 DATA C3,32,E3,3B,3E
{EpAs} 50 DATA 20,32,E4,3B,3E
{HpAt} 60 DATA 3E,32,E5,3B,CD
{MtAs} 70 DATA 60,3B,E5,F5,D5
{OrAr} 80 DATA C5,DD,E5,FD,E5
{AqAs} 90 DATA 21,E3,3B,3E,3A
{LtAs} 100 DATA 77,23,3E,40,77
{AjAt} 110 DATA 23,3E,86,77,AF
{FtAt} 120 DATA 32,71,4A,FD,E1
{HnAu} 130 DATA DD,E1,C1,D1,F1
{IlAr} 140 DATA E1,C3,E3,3B,00
{InAp} 150 DATA 00,00,00,00,00
{BpAq} 160 DATA 00,00,00,00,00
{AoAn} 170 DATA A.P
{OtBj} 180 MODE 1:PRINT"LOADING...":MEMORY &3B5F
{EnAt} 190 LOAD"BOMBFUSION",&3B60
{FoAo} 200 chk=0:x=&3E00
{CxBs} 210 READ a$:IF a$="A.P" THEN 230 ELSE
        a=VAL("&"+a$)
{LrBi} 220 POKE x,a:x=x+1:chk=chk+a:GOTO 210
{GvBq} 230 IF chk<>&217C THEN PRINT "DATA
        ERROR.":END
{KoAo} 240 CALL &3E00
```

● Multiface poke for inf. lives in
Address = 4A71 Poke = 00

Ghouls 'n' Ghosts



The unstoppable Mike Wong of Sale has put down (without losing his clothes) another disk game. Again it has a dodgy format so you are advised to CAT an ordinary disk before running the cheat.

```
{OkAs} 1 ' Ghouls n' Ghosts - disk
{MsAp} 2 ' By Mike Wong
{EwAs} 3 ' Infinite lives
{FtAj} 4 '
{AjAp} 10 MEMORY &416F
{FvAp} 20 FOR n=&BE80 TO &BEB8
{AvAu} 30 READ a$:a=VAL("&"+a$)
{CpAu} 40 POKE n,a:c=c+a:NEXT
{LtAt} 50 IF c<>6419 THEN 200
{ItAt} 60 PRINT"Insert G & G..."
{LiAr} 70 CALL &BB18:CAT
```

```
{HoAp} 80 LOAD"disk",&4170
{ApAp} 90 CALL &BE80
{FtAs} 100 DATA 21,70,41,11,70,01
{MkAv} 110 DATA d5,01,2f,04,ed,b0
{LuAv} 120 DATA 3a,0e,bc,2a,0f,bc
{AqAx} 130 DATA 32,b9,be,22,ba,be
{FpAt} 140 DATA 3e,c3,21,a4,be,32
{NnAt} 150 DATA 0e,bc,22,0f,bc,c9
{BmAt} 160 DATA cd,b9,be,cd,37,bd
{MwAt} 170 DATA 21,b1,be,22,98,14
{GmAr} 180 DATA c9,3e,a7,32,82,31
{OuAn} 190 DATA c3,c0,2e
{OxAq} 200 PRINT"Error..."
```

● Multiface poke for Ghouls 'n' Ghosts

```
Address = 3182        Poke = A7
```

Hoppin' Mad

Goin' mad tryin' to finish yet another game without a "g" at the end? It's about time these guys learned to spel'. Put the spring back into your step and the hops back in the bitter with this infinite life tape poke.

```
{ImAp} 1 ' Hoppin' Mad.
{PiAm} 2 ' Encore tape
{EwAs} 3 ' Infinite lives
{FtAj} 4 '
{FmAu} 10 DATA af,32,55,43,c3,00,40
{MtAr} 20 FOR x=&BE00 TO &BE06
{PwAw} 30 READ a$:POKE x,VAL("&"+a$)
{HpAq} 40 NEXT:OPENOUT "W"
{OpAn} 50 MEMORY &F90
{EqAn} 60 LOAD"elite"
{FtAp} 70 POKE &FD1,&BE
{EkAo} 80 CALL &FA0
```

● Multiface poke for inf. lives Hoppin' Mad

```
Address = 04FF       Poke = 00
```

Hard Drivin'

Suddenly its' all drivin' and bouncin' around here. Mike Wong has busy hackin' the disks and findin' the pokes, I'm puttin' a bar in the back of my car and drivin' myself to drink.

```
{MsAu} 1 'Hard Drivin' disk poke
{OmAv} 2 'Does something (probably)
{DpAp} 3 'By Mike Wong
{FtAj} 4 '
{OwAr} 10 OPENOUT"d":MEMORY &7FF
{JjAr} 20 CLOSEOUT:MODE 1
{GxAs} 30 LOAD"memload",&800
{FjAp} 40 POKE &9F3,&C9
{FsAo} 50 POKE &9A2,&80
{FjAo} 60 POKE &9A3,&BE
{OmAp} 70 FOR n=&BE80 TO &BE8B
{AkAu} 80 READ a$:a=VAL("&"+a$)
{DvAr} 90 POKE n,a:NEXT
{CwAo} 100 CALL &800
{JjAp} 110 POKE &18B9,0
{GkAp} 120 CALL &A21
{HtAt} 130 DATA 1,c6,7f,ed,49,af
{JuAt} 140 DATA 32,c2,48,c3,80,ff
```



THUNDERBIRDS

n issue 51 there were maps and playing tips for the first two levels of *Thunderbirds*. Thanks to Stephen Troupe of Kings Lynn and Carl Surry of Barnet levels 3 and 4 suddenly become so much easier.

Mission 3 – The Bank Job – Password ALOYSIUS

- Lady Penelope takes the HAIR SPRAY and CLOCKWORK MOUSE
- Parker takes the CROWBAR and STETHESCOPE

1) Select Lady P. and the hairspray and walk to the guard.
2) Move both up then right to the lift.
3) Select Parker, use lift, move right, just into the next room.
4) Stand in fornt of the first cabinet (another will open).
5) Swap to Lady P, use lift, drop the hairspray and walk right.
6) Move to the open drawer and get the key if it is there.
7) If not, swap to Parker, move inward one cabinet and try again.
8) Get the key, move left, use the lift, right, down and right again.
9) Stand in front of the lift doors.
10) Swap to Parker and follow Lady P.
11) Use the lift, use crowbar on the left side of the trolley.
12) Use the lift (level 4), drop the crowbar.
13) Move left, get the key, back to the lift.
14) Use the lift (level 6).
15) Swap to Lady P. move left and stand just inside the door.
16) Use the clockwork mouse to switch off the laser.
17) Move left and down 2 rooms. Wait at the top of the ladder for the guard to pass twice.
18) Move right and down twice.
19) Set the switches U,D,U,U,D,D (left to right) Move left.
20) Swap to Parker, move left and down 2 rooms. Wait at the top of the ladder for the guard to pass to the right.
21) Move to the left and up. Use the stethescope on the safe.
22) Get the key, move down. Wait for the guard to pass.
23) Move down and set the switches U,D,D,D,U,U (left to right).
24) Swap to Lady P. move to the left, down and left.
25) Get the key and return. Use both keys on the drawers.
26) Swap to Parker, use both keys on the other drawers.
27) Get the Papers – mission completed.





Mission 4 – The Hoods Lair – Password ANDERSON

- Scott takes the GLUE and the SHADES
- Virgil takes the GUN and the SHADES

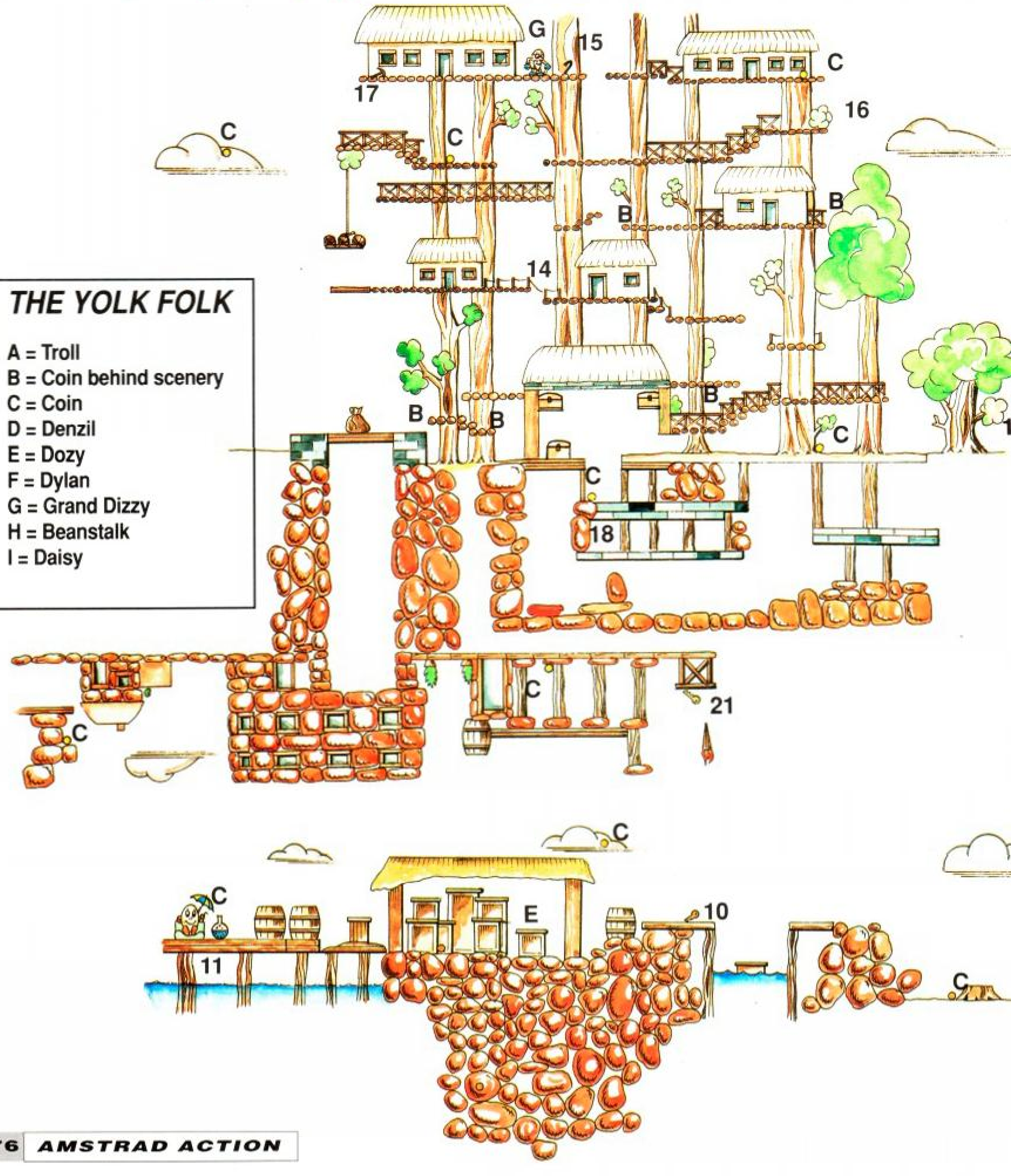
1) Scott moves right 2 rooms and stands behind the piano.
2) Virgil moves left and drops the gun and shades by the piano.
3) Move upstairs and collect the key.
4) Move left and move the left lamp (press fire)
5) Get the sheet music and go back to the piano.
6) Open the piano with the key and collect the furthest item.
7) Put the sheet music onto the piano, then quickly get the other item.
8) Stand with Scott behind the piano, wait for it to sink.
9) Select Scott and the glue, move to the right and deposit the glue.
10) Move left, pick up the limpet mine and return.
11) The Guard should be stuck to the glue, wait if not.
12) Move both right and down. Stand in front of the force field.
13) Virgil fires the gun 3 times to deactivate.
14) When the laser is gone move both right, up and right.
15) Virgil moves right then keeps going down.
16) At the bottom go right and throw the red switch.
17) Scott moves to the top of the building.
18) Move far right and drop the shades
19) Pick up secret film.
20) Move left and throw red switch.
21) Move left and put limpet mine into open hatch.
22) Mission and game complete.



FANTASY WORLD

Just when you were about to lay off eggs for life, your ever-faithful *AA* storms in with a complete map for *FANTASY WORLD DIZZY*. The little EGG-head's adventures should be a cakewalknow! It's all here in glowing, gloroious technicolour, so you can throw all your eggs in one basket and get counting. 'Thankphil' letters are not necessary, just finish the game!

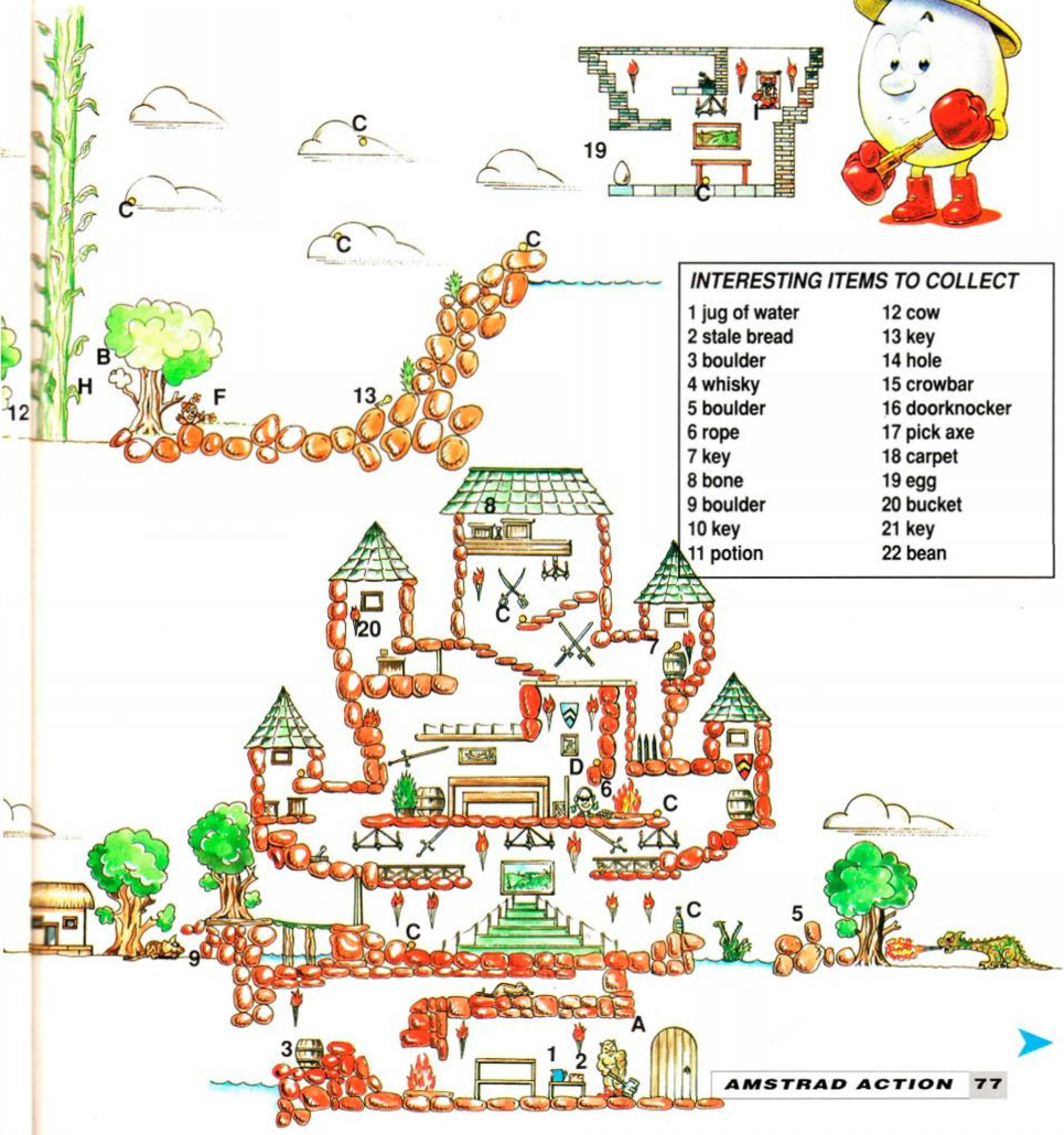
The original we worked from was sent in by Chris Lumb of Leeds – cheers, me old plate, you've made a lot of EGG-sassperated gamers very happy indeed!



THE YOLK FOLK

A = Troll
B = Coin behind scenery
C = Coin
D = Denzil
E = Dozy
F = Dylan
G = Grand Dizzy
H = Beanstalk
I = Daisy

DIZZY THE MAP



INTERESTING ITEMS TO COLLECT

1 jug of water	12 cow
2 stale bread	13 key
3 boulder	14 hole
4 whisky	15 crowbar
5 boulder	16 doorknocker
6 rope	17 pick axe
7 key	18 carpet
8 bone	19 egg
9 boulder	20 bucket
10 key	21 key
11 potion	22 bean

Airbourne Ranger



It's been a long time in the making but here is just about the only cheat I can find that actually improves *Airborne Ranger*. For the tape version, press "DEL" to get first aid as often as you like. At last its safe to come out of the dug-out.

```
{EpAs} 1 'Airborne Ranger
{FrAj} 2 '
{AkAs} 3 'Infinite First Aid
{CkAp} 4 'Press "DEL".
{FuAj} 5 '
{GrAt} 10 DATA dd,2a,38,00,11,19
{BiAt} 20 DATA 80,1a,dd,ad,12,13
{GoAu} 30 DATA 7a,fe,82,20,f6,21
{NwAs} 40 DATA 1a,bf,22,42,80,c3
{GlAt} 50 DATA 1a,80,21,94,40,36
{OjAs} 60 DATA c3,23,36,28,23,36
{IkAu} 70 DATA bf,c3,00,40,3e,5c
{BwAu} 80 DATA 32,5a,94,01,00,f6
{OnAo} 90 DATA c3,97,40
{KpAp} 100 MEMORY &7FFF:y=0
{NnAr} 110 FOR x=&BF00 TO &BF32
{PxAu} 120 READ a$:a=VAL("&"+a$)
{MnAt} 130 POKE x,a:y=y+a:NEXT
{LmAt} 140 IF y<>&1202 THEN 170
{KjAn} 150 LOAD"airborne"
{BaAo} 160 CALL &BF00
{LoAr} 170 PRINT"data error!"
```

● Multiface tape poke for Inf. First Aid

Address = 945A Poke = 5C

Blade Warrior

Yet another Codemasters arcade romp is vanquished by Streets pokesperson Graham Smith. The quest for infinity is over, *Blade Warrior* – Rest In Peace.

```
{CjAs} 1 ' Blade Warrior -tape-
{HvAq} 2 ' By Graham Smith
{GwAx} 3 ' Infinite lives & time
{JsAm} 4 ' Method 1
{FuAj} 5 '
{EtAt} 10 DATA 2a,38,bd,22,2a,be
{GpAt} 20 DATA 21,37,bd,36,c3,23
{NjAt} 30 DATA 36,1b,23,36,be,21
{LiAt} 40 DATA 40,00,e3,11,00,bb
```

● Multiface pokes for Blade Warrior

	ADDRESS	POKE
Inf life	031B	00
Inf time	625C	18
	77A1	C9

Joe Blade 3

Having trouble finishing *Joe Blade 3*? Stephen Troupe of Kings Lynn has put down some of the tactics he used – for your eyes only. Slick stuff Steph!

- The map of the rooms is repeated many times during the game, so try to learn their layout. They are basically the same except that the types of doors and location of objects will change.
- Search all of the floors until you have found the 6 hostages and all 6 detonators.
- Keep a note of the floors where bombs and dynamite are to be found and how many there are; there may be more than one to a floor.
- The bombs are usually on the first 6 floors.
- Make sure you enter every room so as not to miss an important object.
- Use the computer terminals to locate the floors which have detonators and hostages, they will also tell you which floor DRAX BLOODFINGERS is on.
- When entering codes into the computers do not worry about the time as it only exits you from the sub-game; you can continue breaking the code by re-entering the computer system.
- On breaking codes for security doors, and also when capturing DRAX you only have ONE chance, so if you run out of time you must start again.
- When all tasks are completed go to the top floor, via the lift (you cannot go all the way to the roof). Search the floor until you find the security door. In this room is a ladder which allows you to get onto the roof, and in turn to the helicopter.

MULTIFACE POKES

Here's a myriad of Multiface pokes from pokemasters Colin Blackshaw of Cramlington, Kenneth Wood of Blyth and Graham Smith of Street. I have it on very good authority (thanks to C.S.E.) that some of these pokes may not work on ALL versions of the game (ie. the disk poke for *Bubble Bobble* works on some tapes and the SDI poke works on some disks). The best thing to do is try them out and see... you will not do any damage to your computer or the game!

NAME		ADDRESS	POKE	EFFECT
Arcade Muscle Compilation Pack				
Roadblasters	(t)	24B4	01	Inf. fuel
		35B7	10	Extra
extras				
Special Action Compilation Pack				
SDI	(t)	3A7C	00	Inf. lives
Daley Thompson	(t)	17DE	00	Inf. lives
All Stars Compilation Pack				
Bobby Baring	(t)	8243	00	Disables
Black Barings				
Shadow Skimmer	(t)	049F	30	Extra lives
Brian Bloodaxe	(t)	684B	C3	Inf. lives
Palitron	(t)	2427	00	Inf. lives
Inside Outing	(t)	0F97	C3	Inf. energy
		4F91	00	Stops
Nasties				
Warlock	(t)	264F	00	Inf. lives
20 Chartbusters Compilation Pack				
Zolyx	(t)	4390	00	Inf. lives
Ricochet	(t)	6331	00	Inf. lives
Kane	(t)	1386	00	No obsta-
cles				
Rasputin	(t)	DF94	A7	Inf. health
I Ball	(t)	11B3	FF	255 lives
Split Personalities	(t)	2F23	A7	Inf. lives
		0FF6	C9	Stops fuse
Twin Turbo V8		A550	00	Inf. time
		81BB	00	No bends
		1BEE	99	Plenty of
cars				
Bubble Bobble	(t)	6D26	A7	Inf. lives
part 1				
		6D87	A7	
Bubble Bobble	(d)	6D24	A7	Inf. lives
part 1				
		6D85	A7	
		6C0F	A7	Inf. lives
part 2				
		6C70	A7	
Crazy Cars	(t)	5195	3C	Stops timer
Scooby Doo	(t)	7C95	9F	No Ghosts
Bombfusion	(t)	493A	00	Slows Timer
Doodlebug		99AE	00	Inf. lives
Artura	(t)	218B	00	Inf Energy
After the War	(t)	804E	00	Inf. lives
(part 1)				
		8049	00	Inf. lives
(part 2)				
Mega Apocalypse	(t)	01FF	00	Inf. lives
Barbarian II	(t)	432F	00	Inf. lives
Knight Force	(d)	48AC	00	Inf. energy
		4F12	00	
		5825	00	Inf. time
		546D	C9	No decapita-
tion				
Dynamite Dux	(d)	8B84	A7	Inf. credits

THE MULTIFACE WAY

The (t)s and (d)s before the address indicate whether the poke was written for a tape or disk game (they might work on both, its worth a try). Just in case you don't already how to put in these BLACK BOX POKES, here are the steps to success.

a) Load the game as normal.
b) Press the RED button on the MULTIFACE.
c) Press "T" for tool.
d) Press "*" to make sure you select the code.
e) Press "H" for HEXADECIMAL input.
f) Press "SPACE" for input.
g) Type in the ADDRESS (4 characters ie. 3A7C)
h) Type in the POKE (2 characters ie. A7)
i) Press "RETURN"
j) If there is more than one poke goto (f)
k) Press "ESC" back to the menu.
l) Press "R" return to the game.

AA SMALL ADS

For Sale

AMSTRAD CPC464 Colour monitor over 100 games including Emlyn Hughes, Operation Thunderbolt, Multiface 2+, joystick splitter, 50 Amstrad Actions. All boxed, only £250 o.n.o. Phone Wraysbury (0784) 483397. After 5pm.

DDI Disc drive and interface £85. FD1 disc drive £50. GT64 green screen monitor £35. Phone (0532) 529076 evenings.

AMSTRAD 464 with colour monitor, joystick, over £184 games, over 50 magazines, dust covers and screen filter. Excellent condition, £200 o.n.o. Telephone, evenings (0235) 522339 (Abingdon) Oxon.

CPC6128 Multiface Two double speech ROM modulator, tape recorder, three manuals, over £1200 of games mainly disc. v.g.c. £375. Phone Lee after 4.30pm on Northampton (0604) 407269.

MAGNUM Lightgun with six games on tape and disc. Boxed as new £15. Write to Emma Broxup, Dalbeattie House, Oaky Balks, Alnwick, North'land, NE66 2QD. First come first served. Hurry!

THE Test. A big adventure by the author of Island for CPC & PCW £4.50 on disk only. K N Bond, 17 Adel Park Gardens, Adel, Leeds, W. Yorks LS16 8BN, please state computer.

SUPERDISK! crammed with quality programs including Database, Personal Diary, Computer Dictionary, Digitized Music, Real-Time Analogue Clock, Graphics, T/S Filereader and "Arnold" (fun conversation program - includes SPEECH!!!) Disk £6 to M. Ahmad, 43 Hartington Street, Newcastle, NE4 6PS.

CPC6128 colour monitor, fitted 464 chip, 2 Rombo's, Z.I.F., sideways RAM, 16+ Eproms - Protext, Promerge, Utopia, Rodos, Maxam, Disc Demon, Locksmith etc. DMP 2000, 3 joysticks, Multiface II+, 150+ 3" discs. 3 1/2" drive & discs. 84OK, cascett, desk, software, books, mags, soft 968, Autofire, Screen Filter. Too much to list here , worth over £3,000 want £700 - will split. Phone (03317) 3386.

CPC464 with green screen and MP2 Modulator. All the latest games, including Rainbow Islands, Hard Drivin, Ghostbusters II and Chase HQ. All in good condition. Sell for £220. Phone (0932) 784447 evenings.

AT LAST PLUS -£20.00. GAC, Advanced Art Studio, Protext, Maxam, Image System, Page Publisher, Ramdos, Pandora - £15.00 each. Discovery Plus, Speedtrans Plus 3, Ultrasound - £12.00 each. Various games £1.00 +. Phone Christian (0493) 331069 evenings.

ADVENTURE Games - Lords of Magic and Island of Chaos - both games feature graphics and over 70 locations. Available for only £3.95 each on disc for all CPC's. Or send for more information to: T. Kingsmill, 202 Park Street Lane, Park Street, St. Albans, Hertfordshire, AL2 2AQ.

CPC464 Green monitor + joystick + loads of games & mags, AA, ACU, ACE, NCE. Sell for £300, will split. Write to Ian Aitken, 7 Briar Place, Penpont, Dumfries, DG3 4BX.

DIGITIZER can digitize any sound from cassette: Music, voices, it can digitize anything! Runs from menus. Saves sounds to stand-alone programs £4.99 tape, £6.99 disc. Cheques: A. Price, 48 Lockington Crescent, Dunstable, Bedfordshire, LU5 4SU.

CPC6128 colour monitor, built-in disc drive, tape deck, joystick, magazines, many games, complete with black ash desk, £300. Tel: (0621) 850526. Mark Davies, 16 Burns Close, Maldon, Essex.

DDI disc drive and interface for CPC464, with manual and software £100, AMX Mouse and Art s/w £40. Microgenic high quality ROM board, 8-slot. Bargain £20. Phone (0392) 421105.

AMSTRAD6128 colour monitor, tape recorder, joystick, over 25 games including Ghostbusters II, Shinobi, Dragon Ninja. Cost over £600, accept £290 for quick sale. Phone Nick on (0734) 345120.

3 MONTHS old, mint condition, CPC6128 colour monitor, diskdrive, boxed. Speech, joystick, games, £400 or swap for Van or Estate car of same value. Please phone Nick, Southwold, Suffolk 722502 evenings 7.30pm-10.00pm.

CPC464 colour monitor only 1 year old, 18 games £100 o.n.o. Tel: 081 330 0091, Angela.

ORIGINAL program for flat/n hunt racing, not protected for you to change recent data and full listing £5. Pinpoints clearly best rated horse. Cheques/PO's to A. Vassallo, 14 Ipswich Road, Colchester, Essex, CO1 2YD.

AMSTRAD CPC6128 + colour monitor, joystick and £500 of disc software, new titles, excellent condition. All only 9 months old, bargain at £400. Tel: 091 384 2837

CPC464 with colour monitor, excellent condition, Quickshot joystick, books, magazines + all instruction manuals, plus over £200 worth of games including many best selling names. Everything boxed. Only £280. Tel (0606) 891715.

AMSTRAD Second hand games and accessories, all at low prices. Details of 400 games starting from 50p each for list send SAE to: C. Atha, Kimberley Ferry Road, Haxey, Nr. Doncaster, DN9 2LY

AMSTRAD 6128 disc drive, colour monitor, Multiface 2, 3 1/2" disc drive, Rodos, ROMboard, TV Convertor, desk, clock radio, Quickjoy 2, extension leads, books, software including Mastercalc, Advanced Art, many games, £450.00 o.n.o. (0977) 682641.

CYNOTEL technical assistance 24hr response. CPC helpline by fax. Phone Cynotel Bulletin board. Assistance with hardware, software, programming, communications and more. 24 hour response time. Call Julian Sinclair on 081 346 2524.(VOICE) or 081 346 2816 (Viewdata) or 071 794 3707 (fax) £7.50 per year Cynotel BBS as seen in AA54 never get stuck again. Solved within 24 hours!

GAMES galore for the Amstrad range. Send for list from J. Clarke, Rose Cottage, Rectory Road, Mellis, near Eye, Suffolk, IP23 8EA. All games at very cheap prices.

AMSTRAD magazines Computing with the Amstrad, Amstrad Computer User, Amstrad Action, CPC Computing. All mint condition, 120 magazines, some 1st issues, offers, evenings (050841) 8360 daytime, (0953) 608000 extension 541 Martyn Anderson.

COLOUR CPC464, DMP2000, DDI-1 drive, 64K Rampack, AMX Mouse, Multiface 2, Quickshot joystick, internal 6128 ROM, 80 games, Advanced Art Studio, Protext, magazines, books - £500. tel: Flitwick (Bedford) (0525) 712901.

CPC464 green screen monitor, Cheetah 125+ joystick, dust covers, MP-2 modulator TV connector, over 60 games including Ghostbusters II, manual, loads AA's. Price £290 offers near. Phone G. Meredith on (0462) 731648.

GREEN screen monitor, excellent working order, 20 Amstrad Actions from 21, 6 ACU, from Oct. 86, 3 Computing with Amstrad (Dec. 87) £60 will split. Phone (0606) 852143 (Richard) offers considered.

PACE 5 1/4" disc drive with 25 blank discs, storage box and software £140. Also Rombo Rombox £20. John Hawkins, (0438) 353196.

TWENTY *software titles including Driller*, Image System, Gnome Ranger, Bounder, Space Harrier, Trailblazer, Trivial Pursuit, Yie Ar Kung Fu, £5 each or £100 the lot. Phone Paul 041 952 2059.

CPC464 colour monitor, good condition, 90+ games, 6 AA mastergames inc. Laser S, Untouchables, Emlyn H., Ghostbusters 2, Cont. Circus, Raves inc. Op. Thunder Ikari W., Afterburner, R. Dangerous + many others. Joystick, manual £275. Ring Peter 081 870 8470.

Services

DO IT RIGHT! Learn by post, Basic, machine code, etc. courses specifically for CPC owners. Send SAE for details. Camel, 38 Stuart Road, Exeter, EX1 2SZ. Tel: (0392) 421105.

Wanted

PUBLIC Domain software wanted. Disc or tape will be returned with some other PD software if SAE enclosed. Program of twenty tunes/songs included! 70 Highfern Gdns, Belfast, BT13 3RE.

AMSTRAD colour monitor, second drive FD1 with cables in very good condition. Directed to respondents in London postal area. Please write to: Steve, 60 Aidan House, Broadway Estate, London, E8 4RA.

Other

EARN good money in your own home business. Easy, enjoyable, very profitable. Send SAE for details to: Firtree Products, 50 Firtree Grove, Boldmere, Sutton Coldfield, Birmingham, B73 5UN.

AA SMALL ADS

This section offers you a really cheap and effective opportunity to speak direct to 35,000 CPC owners – or would-be owners. Users report excellent results.
You can place an ad up of up to 30 words for just **£5**.

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Buyers Guide

This is the place to find what software and hardware is available for your CPC. We list programs by category, and provide producer; phone number; price; issue in which the item was reviewed; and last but not least, a brief description of the program's features and, where appropriate, shortcomings.

But don't take our word for it: if you're in doubt read the original review before you splash out, and make sure by asking the person you're buying from that it meets your particular needs. Best of all is a try-out, if you can find a friend who has what you're thinking of buying.

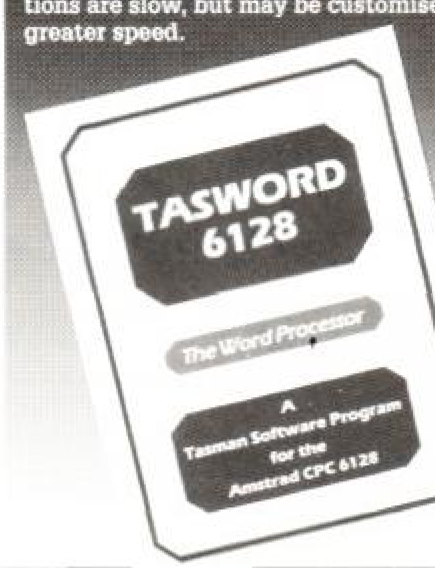
WORD PROCESSING

Brunword

Brunning Software ☎ 0245 252854
£30.00 (6128) disk, £25 (464) disk ● AA24
Complete word processor package with spelling checker, 30 000 word dictionary and card filing programme. Spell checker and dictionary loaded with the main programme. 40, 80 and 128 column screen modes and fast screen response. Tutotrial file makes learning the system easy.

Tasword

Tasman Software ☎ 0532 4388301
464, 464D, 6128, £19.95 tape, £24.95 disk ● AA1
464 is the tape based version (the same as Amsword). 464D has enhancements for a disk drive. 6128 makes full use of a 6128's extra memory. The latter pair include mailmerge facility. Easy to get to know: comprehensive help screens. Screen operations are slow, but may be customised for greater speed.



Protext

Arnor ☎ 0733 68909
£19.95 tape, £26.95 disk, £39.95 ROM ● AA3
Lightning fast on all tasks involving screen. True merging from separate files and disks to the cursor position is easy, and Protext supports standard CPC RSX's like DISC, TAPE, CAT etc. ROM version is excellent. Bad points: maximum file space limited to machine memory – about 22K on disk, 38K for the ROM version. As used by AA, if that's any recommendation (don't answer that).

PRINTERS

Manufacturers' recommended retail prices are listed as guidelines, but heavy discounts are offered by retailers. Printers require an additional lead for connection to the CPC. You'll need an Amsoft PL-1, which should be available from your local computer stockist.

Citizen 120D

☎ 0800 282692
£199 + VAT ● AA43
Dimensions: 3.7 kgs, and 370mm x 90mm x 238mm. Draft quality is 'dotty,' and poor, but NLQ is sharp and simple. A quiet beast, with cable to the computer connected on the side. Manual includes a complete written breakdown of all the printer control commands, and their effects.

Panasonic KXP1081

☎ 0753 73181
£219 +VAT ● AA29
Similar to DMP2000/2160: chunky, 9 pins, 10 inch carriage and compatible with Epson codes. Thorough A4 manual, good NLQ mode – better than DMP – and condensed, draft and NLQ modes.



Mannesmann Tally MT81

☎ 0734 788711
£149 + VAT ● AA43
Dimensions: 70mm x 100mm x 265mm; weight, 4.5 kgs. Prints Epson and IBM graphics. Draft mode print quality is good: square printhead pins put ink onto greater areas. The printed output is more ornate than the Citizen. Manual is superb, but falls down in failing to explain control codes: for that you have to buy the applications manual. Certainly a very good buy.

Star LC-10

☎ 0494 471111
£199/259 + VAT ● AA32
First price is for standard dot matrix printer. Fonts selected by button, rather than typing in fiddly control code. Second price is for relatively inexpensive colour model. Uses multi-colour ribbon to produce different mixes, though there are currently no commercial programs to take advantage of this capability.

Star LC 24-10

☎ 0494 471111
£299 + VAT ● AA47
A low-cost 24 pin, 10 inch, 80 column Letter Quality printer: 8 resident fonts, all operable from the front control panel and 3 print variations.

INTERGRATED PACKAGES

Info-Script

Brunning ☎ 0245 252854
£50 disk ● 128K only ● AA35
Billed as the "complete database with word-processor and spelling checker," it's best with 256K. Well set up, easy to use and allows for changes in layout and content. Recently 'supercharged'.

Mini Office II

Database ☎ 0625 878888
£14.95 tape, £19.95 disk ● AA6



Astonishingly cheap word processor, database, spreadsheet, graphics, comms and label printer all-in-one, it's continued to sell, and sell, and sell... Not full specification, but at this price who's complaining?

Protext Filer/Office

Arnor ☎ 0733 68909
£24.95/£34.95 disk ● AA34
Database that works comfortably with Protext, has powerful sorting options and comprehensive invoice printer. Can be slow, but good value.

EDUCATIONAL PROGRAMS

Amstrad Selection

Fernleaf Education ☎ 0474 359037
£25.95 disk/tape ● AA32
For age range 7 to 12+: Seven programs – including Fletcher's Castle, Market Stall, The Perfume Hunter, The Raiders, Ferry Captain, Treasure, and Thorn Sea.

Arc Master Pack Plus

Arc Education ☎ 0472 812226
£48 disk ● AA32
A massive pack of 90 programs: Junior; Primary; a parent/child adventure; DR Logo and word games. Each set available at £10 tape and £12.50 disk. Well presented with good graphics, reasonable musical ditties and plenty of options.

Kosmos

Kosmos ☎ 05255 3942
£9.95 tape, £13.95 disk ● AA32
Answer Back Junior Quiz lets you either answer the question; make a choice from a number of options; or say whether something is true or false. There's also Factfile 500, sets of additional questions for the program: arithmetic, spelling, sport and natural history.

The other range from Kosmos: vocabulary tutors in French, Spanish, German and Italian.

Funschool 2

Database Software ☎ 0625 878888
£9.95 tape, £14.95 disk ● AA43
So rare is it that educational software gets into the charts that it made the news pages of the weekly computer press. Actually there are three great packages here: under sixes, six to eights and over eights.



Play School

School Software ☎ 010 353 6149477
£9.95 tape, £14.95 disk ● AA32
Six different utilities including Counting, Find It, Paintbox, Shapes, Match-up and How Much? Paintbox is the best. Other programs in the range are also worth a look, including Biology, Chemistry and Physics for older students.

Wordhang

Bourne Education ☎ 0794 523301
£9.95 tape; £14.95 disk ● AA32
One of Bourne's range of ten programs. Others include Happy Letters, Numbers and Writing (all Infant); Timeman One/Two and Map Rally (all Junior); and the excellent Chemistry and Physics Revision (Senior).

BUSINESS / ACCOUNTS

Protext Office

Arnor ☎ 0733 68909
£34.95 ● CPM+, 6128 only ● AA34
Requires Protext and Promerge to run. Information inputted using Protext. Mail merge templates included, and very well implemented invoice printing feature. A genuinely useful business system.

SD Microsystems range

SD Microsystems ☎ 0462 422897
General Ledger ● £19.95 ● AA32 Souped up 6128 version £29.95
Small Traders Pack/Invoicer ● £29.95 ● AA26
Stock Accounting System ● £39.95 ● 6128 only ● AA32
SD Microsystems have a range of quality small business systems. Consult original reviews for in-depth explanations of what each does and how it differs from the others – or better still, ring them and ask.

DATABASES

Masterfile III

Campbell Systems ☎ 0378 77762
£39.95 CPM + ● AA30
With parent/child records – enabling tying together of records, saving space and time. Screen layouts and reports menu selected; not for faint hearts, but good results.

AtLast Plus

Rational Solutions ☎ 056681 511
£39.95 ● CPM+,128k machines only ● AA30
Powerful: developed into user's requirements. Data capacity restricted only by disk size, and splitting fields into smaller elements possible. Printed output impressive. Beefy processing.



Random Access Database

Minerva Systems ☎ 0392 437756
£29.95 disk ● AA6
40 or 80 column screen. Good mathematical and string operations . Random disk accessing gives speed and power.
l See also Info-Script in '4. Integrated Packages'

SPREADSHEETS

Mastercalc 128

Campbell Systems ☎ 0378 77762
£33 disk ● 128K machines ● AA4
Can show two parts of spreadsheet at once. Includes notepad and calculator. Easy to use, but the mathematical formulae can only consist of the four basic arithmetic options. Slows down as more data is entered.

Matrix

Audiogenic Software ☎ 01 861 1166
£34.95 disk ● AA18
Uses disk to store data – so good capacity on the plus side, poor speed on the minus side. Graphic options excellent. Onscreen prompts rare, making it hard at first. Calculating power good.

Supercalc II

Amsoft/Sorcim ☎ 0277 230222
£49.95 CPM + ● AA4
First class documentation. Calculations can be determinative – performed on whether or not cell's contents match given value. Excellent help prompts and arithmetic functions.

Cracker

Newstar Software ☎ 245 265017
£49.00 disk CPM + ● AA9
Spreadsheets must be created from scratch. Documentation good, command sequences soon learned. Mathematical functions well done, with random numbers catered for. Files limited to 17K – and formulae programming not well implemented.

SOUND

Amdrum

Cheetah ☎ 0222 555525
£34.95 ● AA13
Digital drum machine. Editor comprehensive. Not Midi compatible: to hear output you plug it into amplifier.

DHCP Midi Interface

DHCP ☎ 0440 61207
£69.95 interface, £34.95+ disk s'ware ● AA33
DHCP produce Midi software for various Midi interfaces for CPC, which are incompatible with each other.

Midi Interface

Silicon Systems ☎ 061 848 8959
£59.95 interface, £59.95 software ● AA26
Useless alone, but software you can use with it – DX7, FB01, MT32, D50 and CZ101 – is diverse. Software prices vary, and lack presentation of EMR sequencer. High performance.

Miditrack Performer

EMR ☎ 0702 335747
£49.95 interface, £79.90/£89.90 tape/disk s'ware ● AA13
Midi interface plus sequencing software to drive Midi equipped instruments. Records each instrument then plays them all at once. Onscreen layout similar to multi-track recorder. Excellent.

Ram Music Machine

RAM Electronics (Datel) ☎ 782 744707
£49.99 tape, £59.99 disk ● AA17
All in one music package: Midi interface, sound sampler and music editor. Sampler can handle one sample of just over a second. Midi controller software and music editor comprehensive. No through port, though, so 464 users must use tape version. And you can't edit live played Midi compositions.

Sound Blaster

Siren Software ☎ 061 228 1831
£34.99 ● AA23
Amplifier and pair of loudspeakers that plug into CPC for maximum 2 watts sound effects.

Foundation Step-Time Sequencer

Foundation Software ☎ 0252 543945
£34.95 disk
Quite simply the only step-time sequencer you can buy for your CPC.

VISION

Advanced Art Studio

EEC ☎ 0753 888866
£24.95 disk ● AA21
Recently revitalised, this is the user-friendly, best and most powerful art package: works in all three modes. Can cycle through inks, and cut and paste different areas, transformations and reflections. Fill routines in coloured patterns needs 128k memory. Available as a standard version for £15.95.



AMX Art

Database ☎ 0625 878888
£69.95 disk (includes mouse) ● AA7
User friendly, if little unsophisticated compared

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You must return the Wizard Allion's magical rings, hidden in the newly excavated dungeons of Castle Mammon, by Kaddis-Ra's evil rapscallions.

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F.I.S.T. 2

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The Rings of Allion.

0898 800 879

Calls are more expensive than ordinary telephone calls and should only be made with the permission of the telephone subscriber.
Calls cost 25p per min cheap, 38p per min other times (inc. VAT). Touch-Tone phones recommended. Computerdial Ltd., Guildford, Surrey GU1 4JU

to Advanced Art Studio, but mouse helps greatly. Colour, spraycans, textures, circles and host of other features.

Cherry Paint

Siren Software ☎ ***061 228 1831***
£9.99 disk ● AA20
WIMP controlled – ie mouse moves pointer to various icons to pull-down menus. B/W mode 2 only, but fun. Curves are difficult, but this is a bargain.

CRL Image System

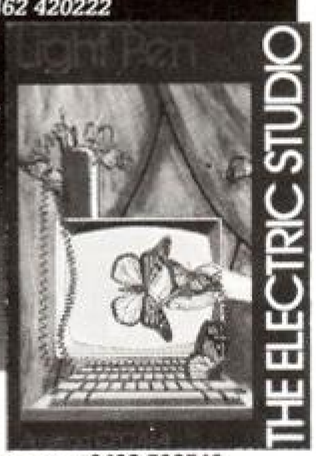
CRL ☎ ***01 533 2918***
£19.95 tape, 24.95 disk ● AA12
Boasts range of picture manipulations and distortions, but lacks art options. Best on finished pictures – like a mini Quantel box.

DART Scanner

Dart Electronics ☎ ***0502 513707***
£79.95 ● AA22
Attach reading device to your DMP2000, 3000 or 3160. Feed in picture to printer: device reads in picture as B/W image. Quality onscreen isn't amazing, but it works and it's fun.

Electric Studio Light Pen

Electric Studio ☎ ***0462 420222***
£19.95 cass, £29.95 disk ● AA1
Excellent drawing software, including rubber-banding shapes and lines, filling areas, spray-can etc. Accepts software written for it.



The Informer

Treasure Island Software ☎ ***0492 593549***
£29 disk ● AA33
For creating animated displays, suitable for classroom and shop window: takes text, graphics and animated displays and produces slide show. Works best, but not only, with Parrotry Plus (see below).

Parrotry Plus

Treasure Island Software ☎ ***0492 593549***
£19.95 disk● AA30
Rather than lots of effects used anywhere and at any time, Parrotry Plus 'remembers' every alteration and plays through the list to create animation. Note: can't dump pictures to printer without external program.

Vidi Digitizer

Rombo Productions ☎ ***0506 414631***
£89.95 ● AA15
Grabs picture from video recorder or camera and puts it on CPC screen, allowing you to alter it with an art package. Easy to use. Software on tape, disk or ROM includes superb printer dump routine.

Buyers Guide DESK TOP PUBLISHING

AMX STOP PRESS

Database ☎ ***0625 878888***
£79.95 disk. 128K only
The Desk Top Publishing package for the CPC. Expensive but the price includes a mouse. A very powerful package that offers features that you'd find on many of the vastly more expensive Apple Macintosh DTP packages. If you're serious about DTP then consider no other.

Page Publisher

SD Microsystems ☎ ***0462 422897***
£24.95 disk £19.95 tape 128K only AA45
If you can't afford *Stop Press*, then *Page Publisher* is the second best option. Quicker and easier to use than *Stop Press*, but has fewer features. The package to use for DTP on a budget.

Buyers Guide UTILITES

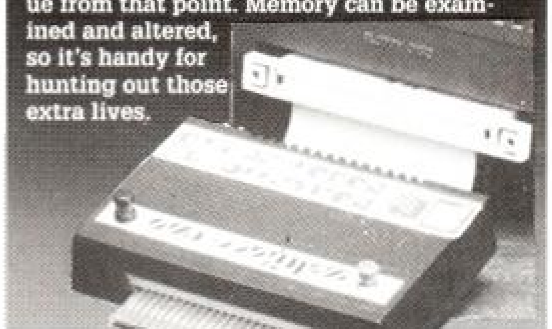
The utilities in this section that offer the facility of BACKING UP disks and files should be used only for that purpose. They are not designed to be used to pirate software, and anyone who uses these products for that purpose is breaking the law.

Nirvana

Goldmark Systems ☎ ***0707 271529***
£15 disk, £26 ROM AA51
Excellent disk utility that allows you to copy files and disks with ease. Uses all the computers memory to minimise disk swapping. Includes disk editor and powerful archiving software that allows you to back up entire disks to tape - rather like a tape streamer on business computers. Once you have used Nirvana then you'll never go back to using CP/M to copy files again!

Multiface II

Romantic Robot ☎ ***01 200 8870 ● £47.95***
Extremely popular dongle that allows you to freeze software in its tracks. You can save entire memory to disk or tape. Very useful for cheats - you can save a game when you finish a level and always continue from that point. Memory can be examined and altered, so it's handy for hunting out those extra lives.



Hackitt

Siren Software ☎ ***061 228 1831***
£34.99 ● AA52
Similar in operation to the Multiface, but aimed at the more dedicated hacker. Has a built in mini assembler and lots of useful hacking utilities. Not really suitable for the novice as a working knowledge of machine code is required.

RSX-LIB

Smogware Systems ☎ ***0603 749132***
£19.95 disk ● AA51
A neat piece of software that allows you to compile a library of RSXs from machine code routines. It can re-locate machine code and automatically set up RSX tables, making it ideal for compiling custom designed extended BASICs.

Buyers Guide JOYSTICKS

Speedking

Konix ☎ ***0495 350101 ● £ 11.95***
Strangely shaped joystick moulded to fit in your hand. People tend to be polarized in their opinions about this one - they either love it or hate it. Design makes it not much use for left handed people.

Competition Pro

Dynamics ☎ ***061 626 7222***
● £14.95, £15.95
Old favorite joystick which many people favour. Sturdy and well built microswitch design that will out-last years of waggling. Trendy see-through version available for a pound extra.

Navigator

Konix ☎ ***0495 35010 ● £14.99***
Handheld joystick that follows Konix's usual strange design convention. The stick is held at the bottom with the control lever on top. Comfortable, once you get used to it.

Quickshot Turbo

Spectravideo ☎ ***0235 555455 ● £10.95***
The best of the 'Aircraft' style joysticks. The fire button is on the 'yoke' itself, making it a favourite for shoot 'em ups. At its best when used stuck to a desk with its suction pads.

Buyers Guide COMMS

Micronet starter pack.

☎ ***0800 200 700 ● £138***
Contains all you need to get started in comms, including a years subscription to Micronet. The Modem is a very basic model, but the overall package is great value for money.

Pace Linnet

☎ ***0274 488211 ● £174.80***
Medium priced Hayes compatible modem that offers good features at a reasonable price. Supports the V21 and V23 standards, which should cater for most peoples needs.

Amstrad SM2400

☎ ***0279 454555 ● £286.35***
Expensive, but everything that you're ever likely to need in a modem. Auto-everything, supporting V21/22/22bis/23 baud rates and both pulse and tone dialing, this hayes compatible modem is a top notch product.

Buyers Guide DISK DRIVES

DD-1

Amstrad ☎ ***0279 454555 ● £149.95***
Essential for 464 owners who want to upgrade to using a disk system. The package includes an interface that contains the disk operating system, and an FD-1 Disk drive.

FD-1

Amstrad ☎ ***0279 454555 ● £99.95***
Second 3 inch drive to add to your system. Two drives are more convenient for data transfer between disks, and improve the user-friendliness of certain programs.

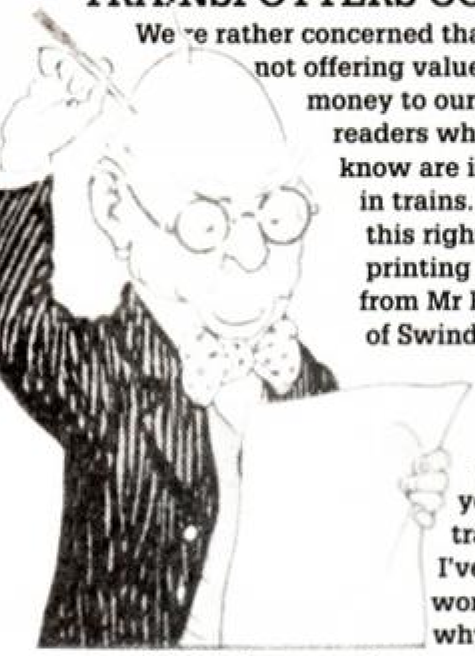
3.5 inch second drive

Siren Software ☎ ***061 228 1831***
● £109.99 - £119.99
High capacity second drive that can store 800K of data on a single 3.5 inch disk. Owners of the 464 must already have a DD-1 in order for it to work on their machine. The standard disk operating system cannot make full use of the extra capacity of the drive, and an extended operating system is needed. The price depends on whether the new DOS is on Disc or ROM, the latter, naturally, being the more expensive.

AAFTERTHOUGHT

Amstrad Action's wizzo last-page extravaganza

TRAINSPOTTERS CORNER



We're rather concerned that we're not offering value for money to our many readers who we know are interested in trains. To put this right, we're printing a letter from Mr B Obvious of Swindon, who has this to say:

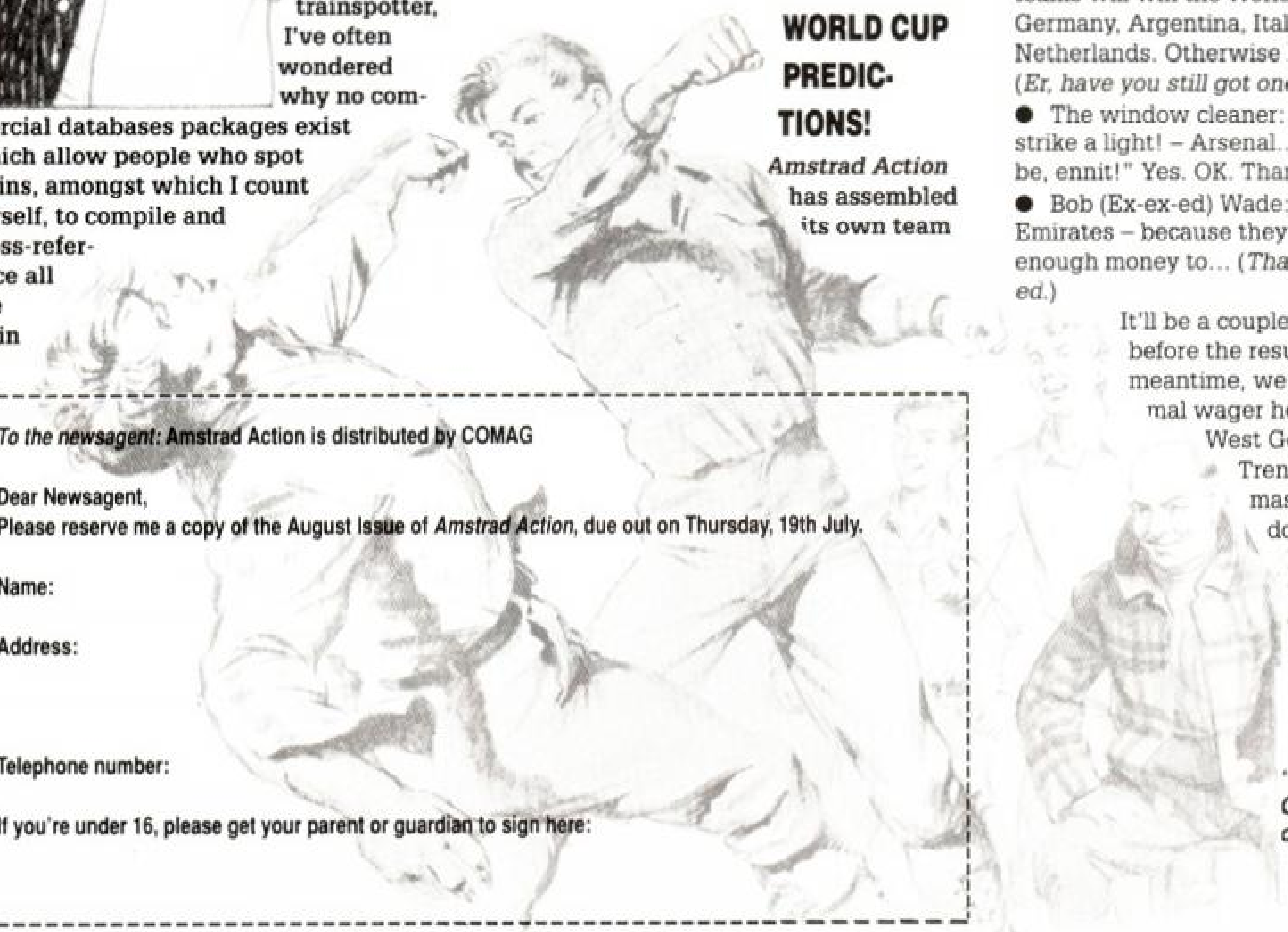
"In all my years as a trainspotter, I've often wondered why no commercial databases packages exist which allow people who spot trains, amongst which I count myself, to compile and cross-reference all the train numbers they collect and form a huge national database which could be accessed by fellow trainspotters the world over.

"Do you, any of your staff, or any of your readers who read your magazine, know of, or have knowledge of, any such database which may or may not exist?

"I really am at my wit's end."

Can anyone out there help? If so, you can write to him courtesy of Rolling Stock Bimonthly Digest, Outer Mongolia and enclose a cheque for two million pounds. No, on second thoughts, send the cheque to us...

WORLD CUP PREDICTIONS!



Amstrad Action has assembled its own team of experts to predict the team which will eventually win the World Cup in Italy.

- Ollie (Arty) Alderton: "Uruguay – because I've got a large bet on them...
- Trenton (Thug) Webb: "West Germany – they've got that nice zigzag pattern on their shirts. I think."
- Adam (RS232) Waring: "Wales – because I'm half Welsh." (*And half-witty – ed*)
- Rod (Trendy) Lawton: "England – because Bobby Moore's such a good captain."
- Steve (Ex-ed) Carey: "Only one South American team has ever won in Europe. OK. I can guarantee one of these five teams will win the World Cup – West Germany, Argentina, Italy, Brazil or the Netherlands. Otherwise I'll eat my CPC." (*Er, have you still got one? – ed.*)
- The window cleaner: "Cor blimey guv, strike a light! – Arsenal... I mean, gorra be, ennit!" Yes. OK. Thanks.
- Bob (Ex-ex-ed) Wade: "United Arab Emirates – because they've easily got enough money to... (*That's enough libel – ed.*)

It'll be a couple of weeks yet before the results are out. In the meantime, we have a little informal wager here in the office. If West Germany loses, Trenton pays for a massive slap-up feed down at the wine bar. (If they win, we go down on our own...)

"Hey bud! Git yer hands off of my AA...!"

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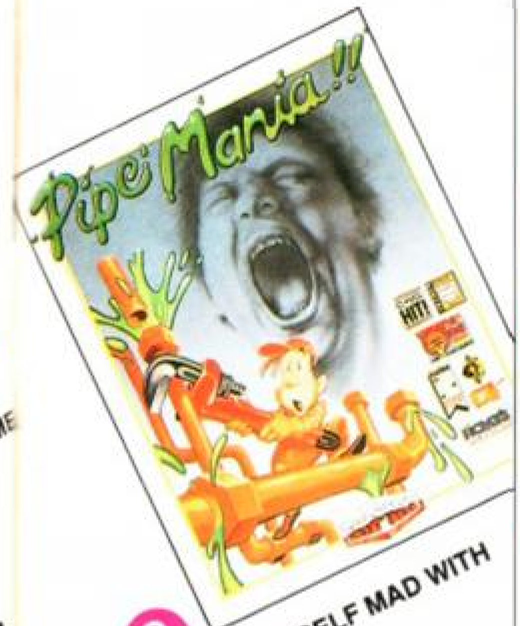
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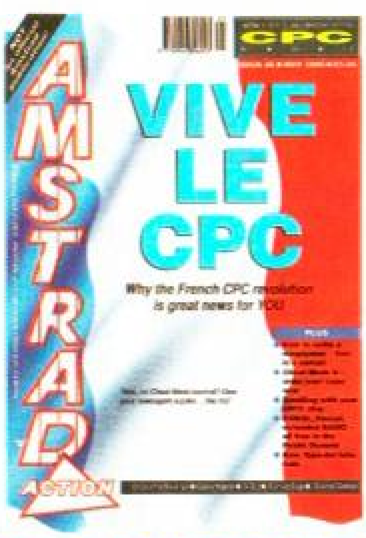




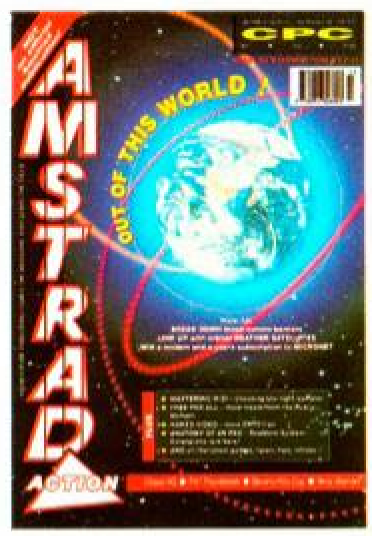


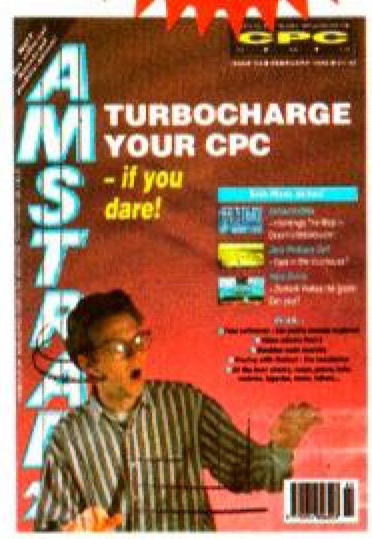
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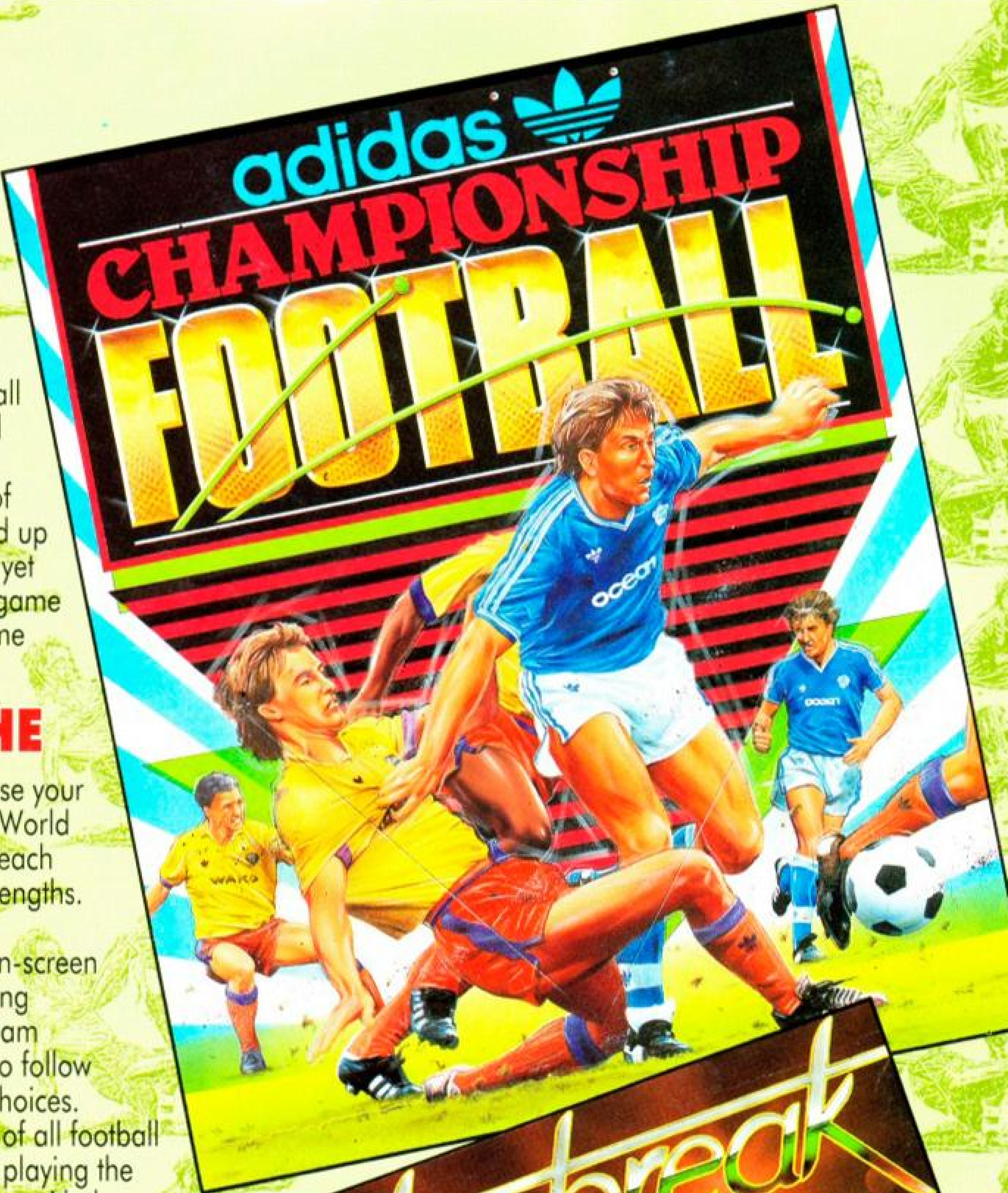
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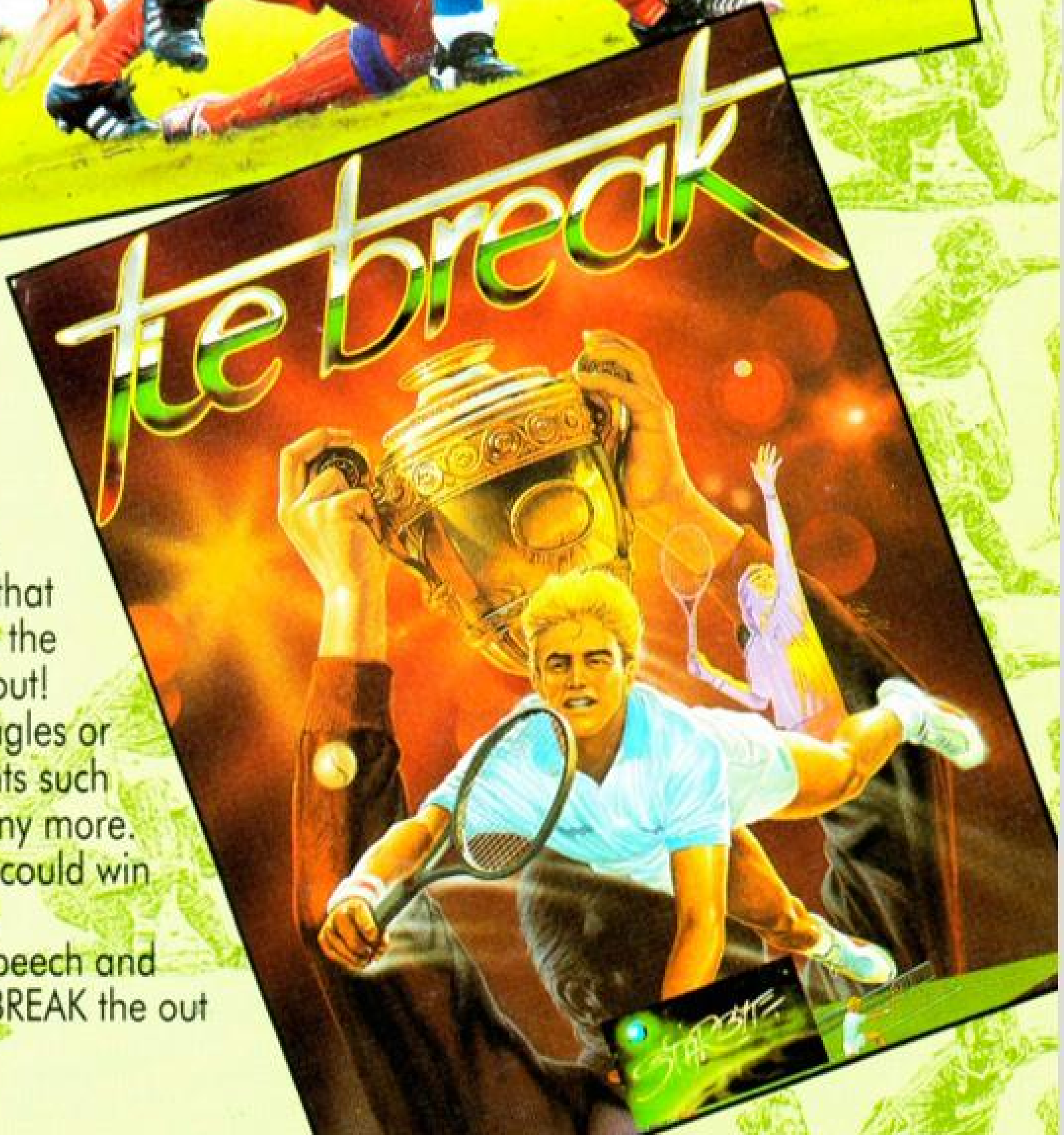
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